ORDER NO. TSD-7904-343

Service Manual

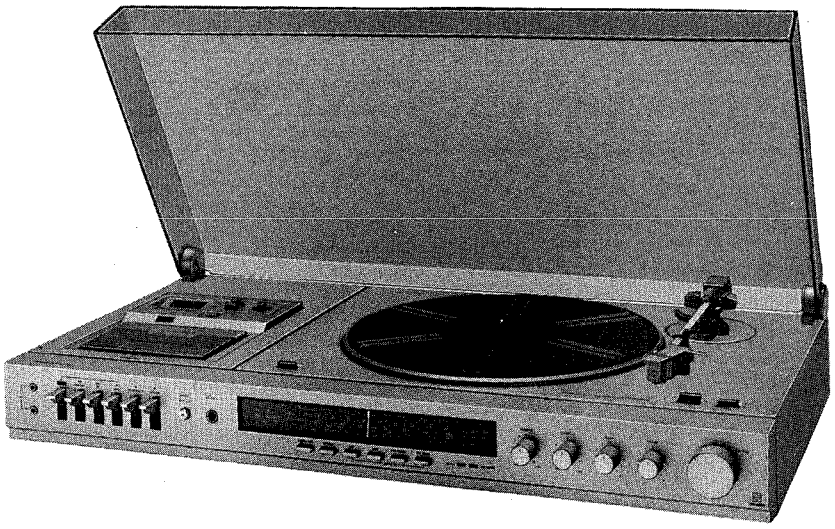
Stereo Music Centre

SG-3000/(UK)/Ⓖ

FM/AM/FM STEREO WITH CASSETTE TAPE DECK AND RECORD PLAYER

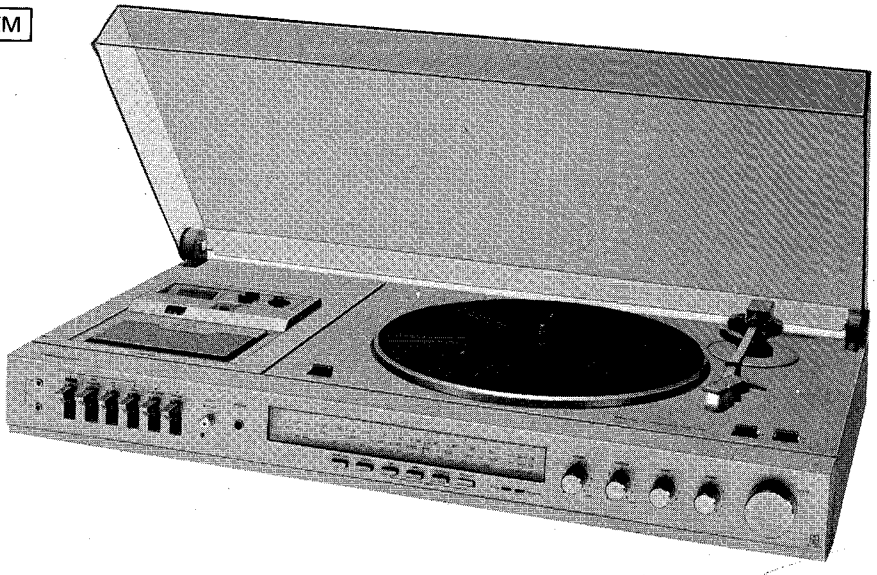
(Ⓖ: Except Europe)

DOLBY SYSTEM



for United Kingdom

DOLBY SYSTEM



* "Dolby" and the double-D symbol are trade marks of Dolby Laboratories.
* Noise reduction system manufactured under license from Dolby Laboratories.

National Panasonic®

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SG-3000/(UK)/(G)

Specifications For United Kingdom

AMPLIFIER SECTION

Power Output	MPO: 2×25W (THD 5%, 4Ω) RMS: 2×17W (THD 5%, 4Ω) (One Channel Driven)
Frequency Response	30 Hz ~ 40 kHz, −3 dB
Power Band Width	50 Hz ~ 30 kHz, − 3 dB
Input Sensitivity and Impedance:	
Mic	1 mV, 3 kΩ
Tone Controls:	
Bass	+10 dB, −10 dB at 50 Hz
Treble	+10 dB, −15 dB at 10 kHz

FM TUNER SECTION

Frequency Range	87.5 ~ 108 MHz
Intermediate Frequency (IF)	10.7 MHz
Sensitivity	4 μV (S/N 26 dB Mod. 40 kHz)
Image Ratio	38 dB (98 MHz)
Signal/Noise Ratio	60 dB (at 1 kHz, 60 dB, 40 kHz)
Distortion:	
Mono	0.5% (at 1 kHz, 60 dB, 40 kHz)
Stereo	0.6% (at 1 kHz, 60 dB, 40 kHz)
Stereo Separation	40 dB (at 1 kHz, 60 dB, 40 kHz)
Selectivity	60 dB (at 1 kHz, 60 dB, 40 kHz)

AM TUNER SECTION

Frequency Range	MW: 525 ~ 1605 (572 ~ 187m) LW: 145 ~ 350 kHz (2070 ~ 857m)
Intermediate Frequency (IF)	470 kHz
Sensitivity	MW: 150 μV/m (1 MHz) LW: 250 μV/m (240 kHz)
Image Ratio	MW: 45 dB (1 MHz) LW: 40 dB (240 kHz)

RECORD PLAYER SECTION

Player System	Belt-Drive, Automatic Return
Turntable	28 cm
Turntable Speeds	33-1/3 and 45 rpm, 2-Speed
Wow and Flutter	0.25% (DIN WTD)
Phonomotor	Electronic Governor DC Motor
Cartridge	Moving Magnet Type (EPC-290C)
Stylus	Diamond (EPS-290SD)
Stylus Pressure	2 ~ 3g
Frequency Response	20 Hz ~ 20 kHz
Separation	≧ 15 dB
Signal/Noise Ratio	56 dB (DIN)

TAPE DECK SECTION

Deck System	Auto-Stop Cassette System
Track System	4-Track, 2-Channel
Recording System	AC Bias (50 kHz) with Dolby NR System
Erasing System	AC Erase (50 kHz)
Tape Speed	4.75 cm/sec. (1-7/8 i.p.s.)
Frequency Response	40 Hz ~ kHz (Normal) 35 Hz ~ 15 kHz (CrO_2)
Signal/Noise Ratio:	
Dolby NR-OUT	35 dB (DIN)
Dolby NR-IN	60 dB (DIN) [When Dolby NR IN, improved 10 dB or more from Dolby NR OUT at more than 5 kHz]
Wow and Flutter	0.35% (DIN)

POWER CONSUMPTION 110W

POWER SUPPLY AC 110V, 120V, 220V, 240V, 50/60 Hz

DIMENSIONS (W×H×D)

Centre Unit	650 mm×135 mm×397 mm (25-1/32″)×(5-1/64″)×(15-1/32″)

WEIGHT

Centre Unit	9.3 kg (20 lb. 16 oz.)

* Specifications are subject to change without notice for further improvement.

Specifications

AMPLIFIER SECTION

Power Output	MPO: 2×25W (THD 5%, 4Ω) RMS: 2×17W (THD 5%, 4Ω) (One Channel Driven)
Frequency Response	30 Hz ~ 40 kHz, −3 dB
Power Band Width	50 Hz ~ 30 kHz, − 3 dB
Input Sensitivity and Impedance:	
Mic	1 mV, 3 kΩ
Tone Controls:	
Bass	+10 dB, −10 dB at 50 Hz
Treble	+10 dB, −15 dB at 10 kHz

FM TUNER SECTION

Frequency Range	87.5 ~ 108 MHz
Intermediate Frequency (IF)	10.7 MHz
Sensitivity	4 μV (S/N 26 dB Mod. 40 kHz)
Image Ratio	38 dB (98 MHz)
Signal/Noise Ratio	60 dB (at 1 kHz, 60 dB, 40 kHz)
Distortion:	
Mono	0.5% (at 1 kHz, 60 dB, 40 kHz)
Stereo	0.6% (at 1 kHz, 60 dB, 40 kHz)
Stereo Separation	40 dB (at 1 kHz, 60 dB, 40 kHz)
Selectivity	60 dB (at 1 kHz, 60 dB, 40 kHz)

AM TUNER SECTION

Frequency Range	MW: 525 ~ 1605 (572 ~ 187m) LW: 145 ~ 350 kHz (2070 ~ 857m)
Intermediate Frequency (IF)	455 kHz
Sensitivity	MW: 150 μV/m (1 MHz) LW: 250 μV/m (240 kHz)
Image Ratio	MW: 45 dB (1 MHz) LW: 40 dB (240 kHz)

RECORD PLAYER SECTION

Player System	Belt-Drive, Automatic Return
Turntable	28 cm
Turntable Speeds	33-1/3 and 45 rpm, 2-Speed
Wow and Flutter	0.25% (DIN WTD)
Phonomotor	Electronic Governor DC Motor
Cartridge	Moving Magnet Type (EPC-290C)
Stylus	Diamond (EPS-290SD)
Stylus Pressure	2 ~ 3g
Frequency Response	20 Hz ~ 20 kHz
Separation	≧ 15 dB
Signal/Noise Ratio	56 dB (DIN)

TAPE DECK SECTION

Deck System	Auto-Stop Cassette System
Track System	4-Track, 2-Channel
Recording System	AC Bias (50 kHz) with Dolby NR System
Erasing System	AC Erase (50 kHz)
Tape Speed	4.75 cm/sec. (1-7/8 i.p.s.)
Frequency Response	40 Hz ~ 13 kHz (Normal) 35 Hz ~ 15 kHz (CrO_2)
Signal/Noise Ratio:	
Dolby NR-OUT	35 dB (DIN)
Dolby NR-IN	60 dB (DIN) [When Dolby NR IN, improved 10 dB or more from Dolby NR OUT at more than 5 kHz]
Wow and Flutter	0.35% (DIN)

POWER CONSUMPTION 110W

POWER SUPPLY AC 110V, 120V, 220V, 240V, 50/60 Hz

DIMENSIONS (W×H×D)

Centre Unit	650 mm×135 mm×397 mm (25-1/32″)×(5-1/64″)×(15-1/32″)

WEIGHT

Centre Unit	9.3 kg (20 lb. 16 oz.)

* Specifications are subject to change without notice for further improvement.

FRANÇAIS

Spécifications

SECTION AMPLIFICATEUR

Puissance de sortie	MPO: 2 × 25W (THD 5%, 4Ω)
	RMS: 2 × 17W (THD 5%, 4Ω)/canaux
Réponse de fréquence	30 Hz ~ 40 kHz, −3 dB
Bande passente	50 Hz ~ 30 kHz, −3 dB
Sensibilité d'entrée et impédance:	
Micro	1 mV, 3 kΩ
Contrôle de tonalité:	
Tonalité grave	+10 dB, −10 dB à 50 Hz
Tonalité aiguë	+10 dB, −15 dB à 10 kHz

SECTION TUNER FM

Echelle de fréquence	87,5 ~ 108 MHz
Fréquence intermédiaire (Fi)	10,7 MHz
Sensibilité	4 μV (S/N 26 dB, Mod. 40 kHz)
Rendement présélecteur	38 dB (98 MHz)
Rapport de signal à bruit	60 dB (à 1 kHz, 60 dB, 40 kHz)
Distorsion:	
Mono	0,5% (à 1 kHz, 60 dB, 40 kHz)
Stéréo	0,6% (à 1 kHz, 60 dB, 40 kHz)
Séparation stéréo	40 dB (à 1 kHz, 60 dB, 40 kHz)
Sélectivité	60 dB (à 1 kHz, 60 dB, 40 kHz)

SECTION TUNER AM

Echelle de fréquence	PO: 525 ~ 1605 (572 ~ 187m)
	GO: 145 ~ 350 kHz (2070 ~ 857m)
Fréquence intermédiaire (FI)	455 kHz
Sensibilité	PO: 150 μV/m (1 MHz)
	GO: 250 μV/m (240 kHz)
Rendement présélecteur	PO: 45 dB (1 MHz)
	GO: 40 dB (240 kHz)

SECTION TOURNE-DISQUE

Système du tourne-disque	Retour automatique, entrainement par courroie
Tourne-disque	28 cm
Vitesses du plateau	33-1/3 et 45 t/min, deux vitesses
Pleurage et scintillement	0,25% (DIN WTD)
Phonomoteur	Moteur Cour. Cont. à régulateur électronique
Cartouche	Aimant mobile (EPC-290C)
Pointe de lecture	Diamant (EPS-290SD)
Pression de pointe	2 ~ 3g
Réponse de fréquence	20 Hz ~ 20 kHz
Séparation	≧ 15 dB
Rapport de signal à bruit	56 dB (DIN)

SECTION MAGNETOPHONE

Système de magnétophone	Système à cassette automatique
Système de piste	4 pistes, 2 canaux
Système d'enregistrement	Polarisation Cour. alt. (50 kHz), avec système de réduction de bruit Dolby
Système d'effacement	Effacement Cour. alt. (50 kHz)
Vitesse de bande	4,75 cm/s (1-7/8 i.p.s.)
Réponse de fréquence	40 Hz ~ 13 kHz (Normal)
	35 Hz ~ 15 kHz (CrO_2)
Rapport de signal à bruit:	
Dolby NR-SORTIE	53 dB (DIN)
Dolby NR-ENTREE	60 dB (DIN)
	[10 dB ou mieux à plus de 5 kHz]
Pleurage et scintillement	0,35% (DIN)

CONSOMMATION DE PUISSANCE 110W

ALIMENTATION ..... Cour. alt. 110V, 120V, 220V, 240V, 50/60 Hz

DIMENSIONS (L × H × P)
Appareil principal ..... 650 mm × 135 mm × 397 mm

POIDS
Appareil principal ..... 9,3 kg.

* Les spécifications et la présentation sont susceptibles d'être modifiées sans préavis par suite d'amélioration éventuelle de nos appareils.

DEUTSCH

Technische Daten

VERSTÄRKERTEIL

Ausgangsleistung	MPO: 2 × 25W (Klirrgrad 5%, 4Ω)
	RMS: 2 × 17W (Klirrgrad 5%, 4Ω)/Kanal
Frequenzumfang	30 Hz bis 40 kHz, −3 dB
Leistungsbandbreite	50 Hz bis 30 kHz, −3 dB
Eingangsempfindlichkeit und Impedanz:	
Mic	1 mV, 3 kΩ
Tonregler:	
Bass	+10 dB, −10 dB bei 50 Hz
Hochton	+10 dB, −15 dB bei 10 kHz

UKW-TUNERTEIL

Frequenzbereich	87,5 ~ 108 MHz
Zwichenfrequenz	10,7 MHz
Empfindlichkeit	4 μV (S/N 26 dB, Mod. 40 kHz)
Spiegelfrequenzdämpfung	38 dB (98 MHz)
Signal-Rauschpannungs-abstand	60 dB (bei 1 kHz, 60 dB, 40 kHz)
Klirrgrad:	
Mono	−0,5% (bei 1 kHz, 60 dB, 40 kHz)
Stereo	0,6% (bei 1 kHz, 60 dB, 40 kHz)
Stereo-Trennung	40 dB (bei 1 kHz, 60 dB, 40 kHz)
Trennschärfe	60 dB (bei 1 kHz, 60 dB, 40 kHz)

AM-TUNERTEIL

Empfangsbereiche	MW: 525 ~ 1605 kHz (572 ~ 187m)
	LW: 145 ~ 350 kHz (2070 ~ 857m)
Zwischenfrequenz	455 kHz
Emplifindlichkeit	MW: 150 μV/m (1 MHz)
	LW: 250 μV/m (240 kHz)
Spiegelfrequenzdämpfung	MW: 45 dB (1 MHz)
	LW: 40 dB (240 kHz)

PLATTENSPIELERTEIL

Plattenspieler	Tonarm-Rückführautomatik, Riemenantreib
Plattenteller	28 cm
Plattentellderdrehzahl	33-1/3 und 45 U/min., zwei Plattendrehzahlen
Geschwindigkeits-schwankungen	0,25% (DIN WTD)
Phonomotor	Electronisch geregelter Gleichstrom-motor
Tonabnehmer	Drehmagnet (EPC-290C)
Nadel	Diamant (EPS-290SD)
Auflagekraft	2 ~ 3g
Frequenzumfang	20 Hz ~ 20 kHz
Trennung	≧ 15 dB
Rauschabstand	56 dB (DIN)

TONBANDTEIL

Tonbandsystem	Cassettensystem mit Ausschalt-automatik
Spursystem	4 Spuren, 2 Kanal
Aufnahmesystem	Wechselstrom-Vormagnetisierung 50 kHz mit Dolby-Rauschunterdrückung
Löschsystem	Wechselstrom-Löschung 50 kHz
Bandlaufgeschwindigkeit	4,75 cm/sec. (1-7/8 i.p.s.)
Frequenzumfang	40 Hz ~ 13 kHz (Normal)
	35 Hz ~ 15 kHz (CrO_2)
Rauschabstand:	
Dolby NR-OUT	53 dB (DIN)
Dolby NR-IN	60 dB (DIN)
	[Über 5 kHz um mehr als 10 dB verbessert]
Gleichlaufschwankungen	0,35% (DIN)

LEISTUNGSAUFNAHME 110W

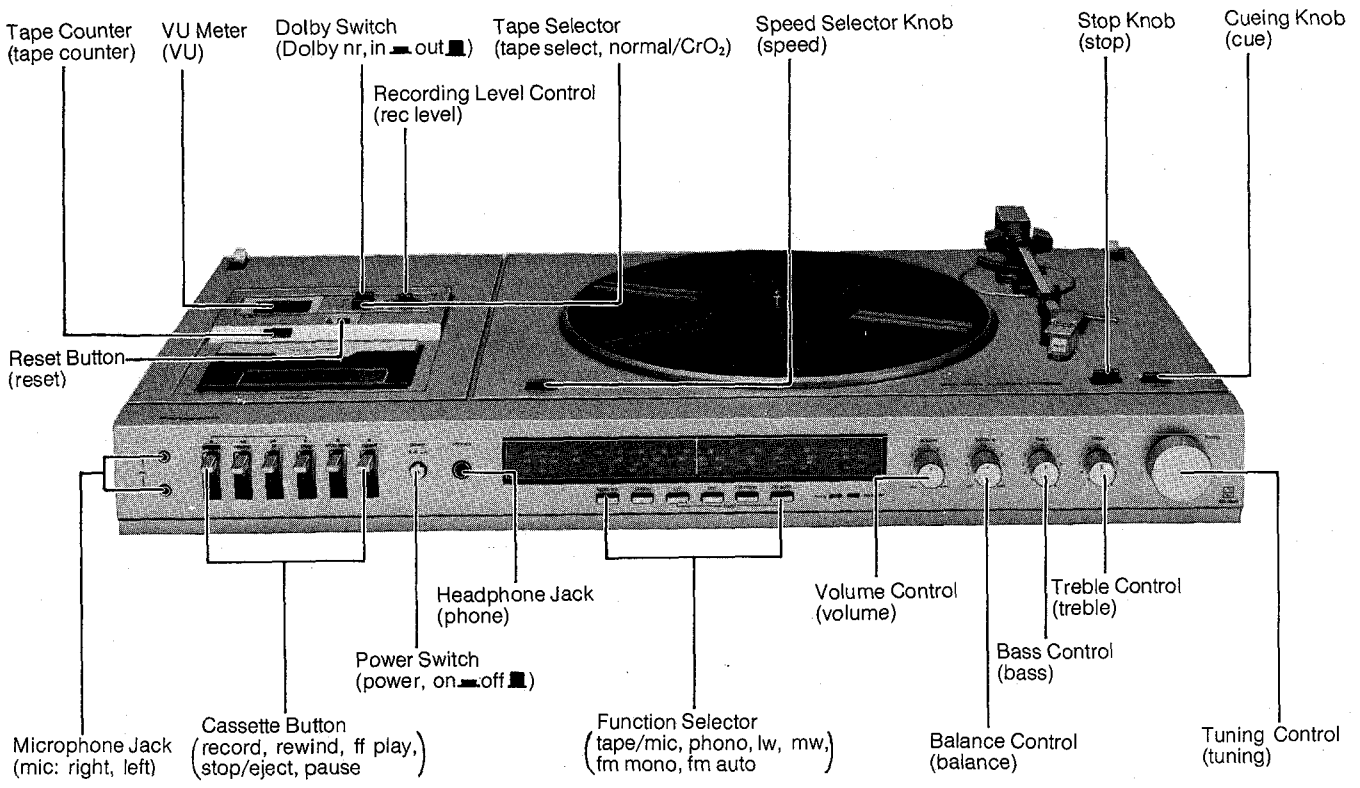
STROMVERSORGUNG ..... Wechselstron 110V, 120V, 220V, 240V, 50/60 Hz

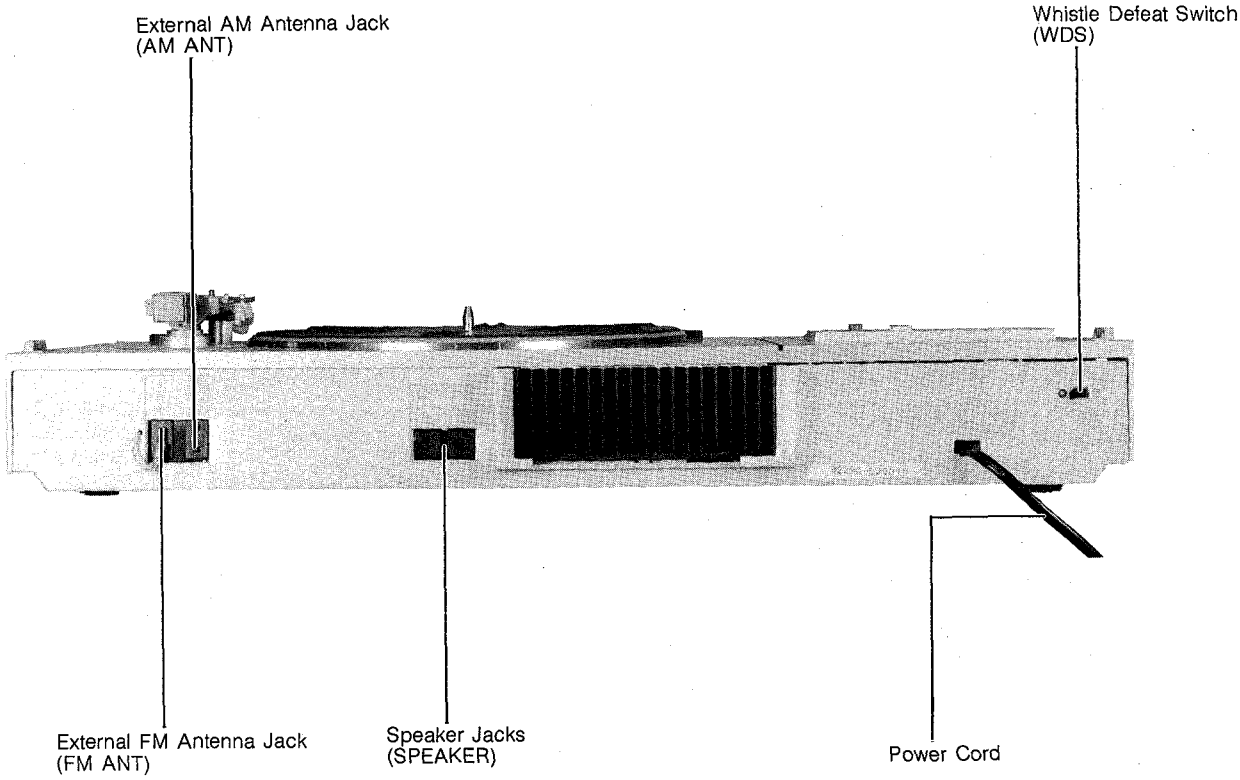
ABMESSUNGEN (B × H × T)
Mittelteil ..... 650 mm × 135 mm × 397 mm

GEWICHT
Mitteleinheit ..... 9,3 kg

* Änderungen der technischen Daten und des Designs im Sinne ständiger Verbesserung vorbehalten.

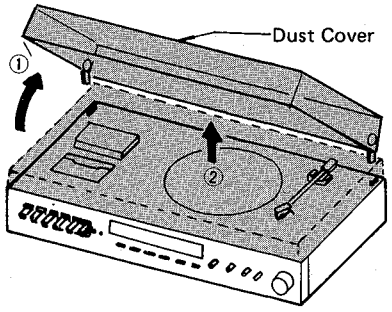
LOCATION OF CONTROLS


Tape Counter (tape counter)
VU Meter (VU)
Dolby Switch (Dolby nr, in ▬ out ▮)
Tape Selector (tape select, normal/CrO_2)
Speed Selector Knob (speed)
Stop Knob (stop)
Cueing Knob (cue)
Recording Level Control (rec level)
Reset Button (reset)
Headphone Jack (phone)
Volume Control (volume)
Treble Control (treble)
Power Switch (power, on ▬ off ▮)
Bass Control (bass)
Microphone Jack (mic: right, left)
Cassette Button (record, rewind, ff play, stop/eject, pause)
Function Selector (tape/mic, phono, lw, mw, fm mono, fm auto)
Balance Control (balance)
Tuning Control (tuning)

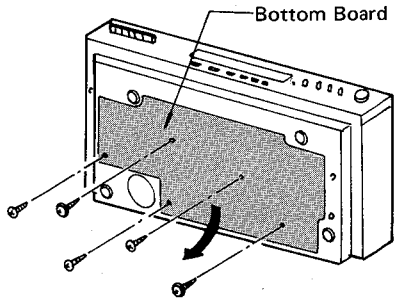

External AM Antenna Jack (AM ANT)
Whistle Defeat Switch (WDS)
External FM Antenna Jack (FM ANT)
Speaker Jacks (SPEAKER)
Power Cord

DISASSEMBLY INSTRUCTIONS

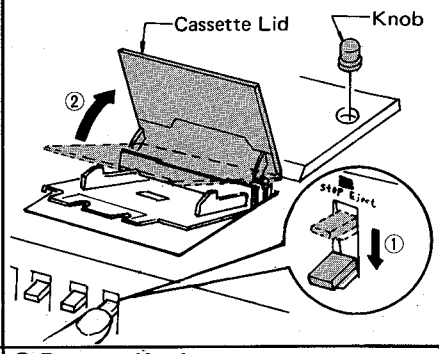
❶ Remove Dust Cover



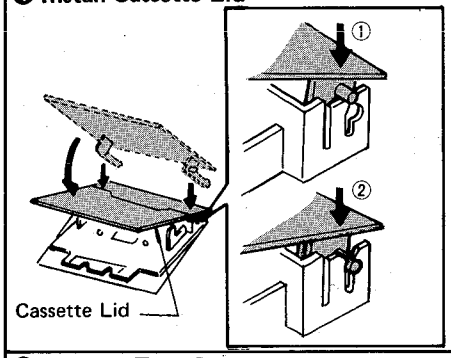
❷ Remove Bottom Board



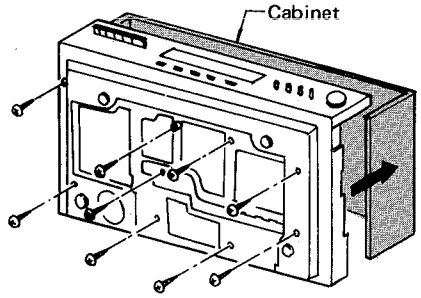
❸ Remove Cassette Lid and Knob



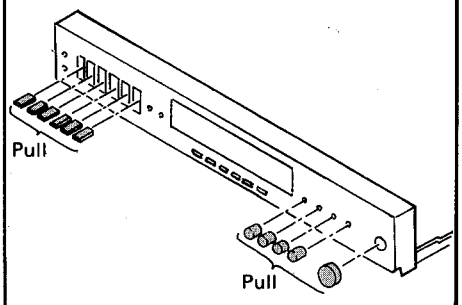
❹ Install Cassette Lid



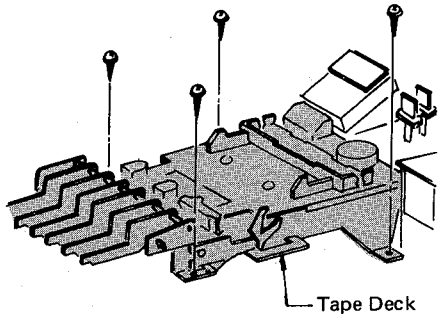
❺ Remove Cabinet



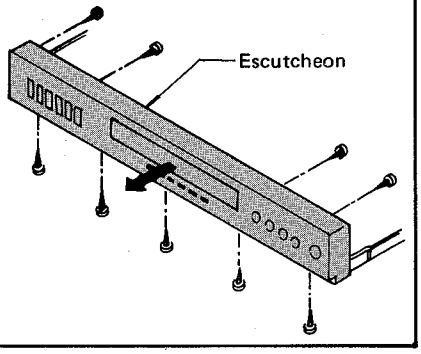
❻ Remove Knob



❼ Remove Tape Deck



❽ Remove Escutcheon

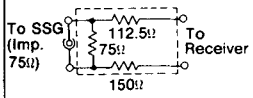


- **To Replace Cassette Lid** ..... Refer to ❸, ❹.
- **To Replace Parts on P.C. Board** ..... Refer to ❶~❸, ❺.
- **To Remove Tape Deck** ..... Refer to ❶~❸, ❺~❼.
- **To Remove Escutcheon** ..... Refer to ❶~❸, ❺~❽.

ALIGNMENT INSTRUCTIONS (RADIO)–1

Control Positions:

1. Volume Control ..... Maximum (AM-IF and RF, FM-RF); Minimum (FM-IF)
2. Function Selector ..... LW, MW, FM AUTO, FM MONO
3. Output of signal generator should be no higher than necessary to obtain output reading.
4. Make certain that speaker system is connected to the receiver when aligning.

STEP	SIGNAL GENERATOR OR SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
AM-IF AND RF ALIGNMENT						
1 (AM)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	470 kHz for UK 455 kHz 30% Mod. with 400 Hz	Point of non-interference	Output meter across speaker jack (L)	T204 (IFT 1st) T206 (IFT 3rd)	• Adjust for maximum output
2 (LW)		145 kHz 30% Mod. with 400 Hz	145 kHz (10.3 mm)		L202 (LW ANT) L204 (LW OSC)	• Adjust for maximum output by sliding coil L202 along ferrite core. • Refer to Note.
3 (LW)		350 kHz 30% Mod. with 400 Hz	350 kHz (137.9 mm)		CT202 (LW ANT Trimmer) CT204 (LW OSC Trimmer)	• Adjust for maximum output. • Repeat steps (2) and (3)
4 (MW)		550 kHz 30% Mod. with 400 Hz	550 kHz (15.3 mm)		L201 (MW ANT) L203 (MW OSC)	• Adjust for maximum output by sliding coil L201 along ferrite core. • Refer to Note.
5 (MW)		1500 kHz 30% Mod. with 400 Hz	1500 kHz (132.7 mm)		CT201 (MW ANT Trimmer) CT203 (MW OSC Trimmer)	• Adjust for maximum output. • Repeat steps (4) and (5).
Note: Cement antenna coil L202, 201 with wax after completing alignment.						
FM-IF ALIGNMENT						
1	High side through 0.001μF to point TP1 and TP 2 (earth).	10.7 MHz (400 kHz SWP).	Point of non-interference (on/ about 98 MHz)	Connect vert. amp. input of scope to point TP3 and TP2 (earth).	T201 (FM IFT) T202 (FM DISC)	• Adjust for maximum amplitude and symmetrical curve. • Refer to Note.
2					T203 (FM DISC)	• Adjust for maximum amplitude and proper linearity between about ±100 kHz markers.
Note: Before aligning step 1, turn the cores of T203 fully counterclockwise.						
FM-RF ALIGNMENT						
1	Connect to EXT. FM antenna terminal through Dummy antenna.  FM DUMMY ANTENNA	90 MHz 30% Mod. with 400 Hz	90 MHz (19.6 mm)	Output meter across speaker jack (L)	L103 (FM OSC) L101 (FM ANT) L102 (FM DET)	• Adjust for maximum output.
2		106 MHz 30% Mod. with 400 Hz	106 MHz (125.7 mm)		CT101 (FM ANT Trimmer) CT102 (FM DET Trimmer) CT103 (FM OSC Trimmer	• Adjust for maximum output. • Repeat steps (1) and (2).

Note: 1. As three output readings will be present, adjustments must be made at center frequency.
2. To correct drift at the FM dial scale (87.5 or 108 MHz), adjust coil L103 and trimmer CT103 with each other.

ALIGNMENT INSTRUCTIONS (RADIO)–2

■ FM Stereo Alignment

Control Positions:

Tuner: Volume Control ..... Audible level of speaker sound
Tone Control ..... Center
Function Selector ..... FM AUTO
Balance Control ..... Center

EQUIPMENT CONNECTION	ADJUST	REMARKS
Control frequency counter to TP5 and TP6 at 98 MHz, 30% modulation 60 dB input	VR302	Adjust VR302 for 19 kHz ±100 Hz on frequency counter reading.

SEPARATION ALIGNMENT

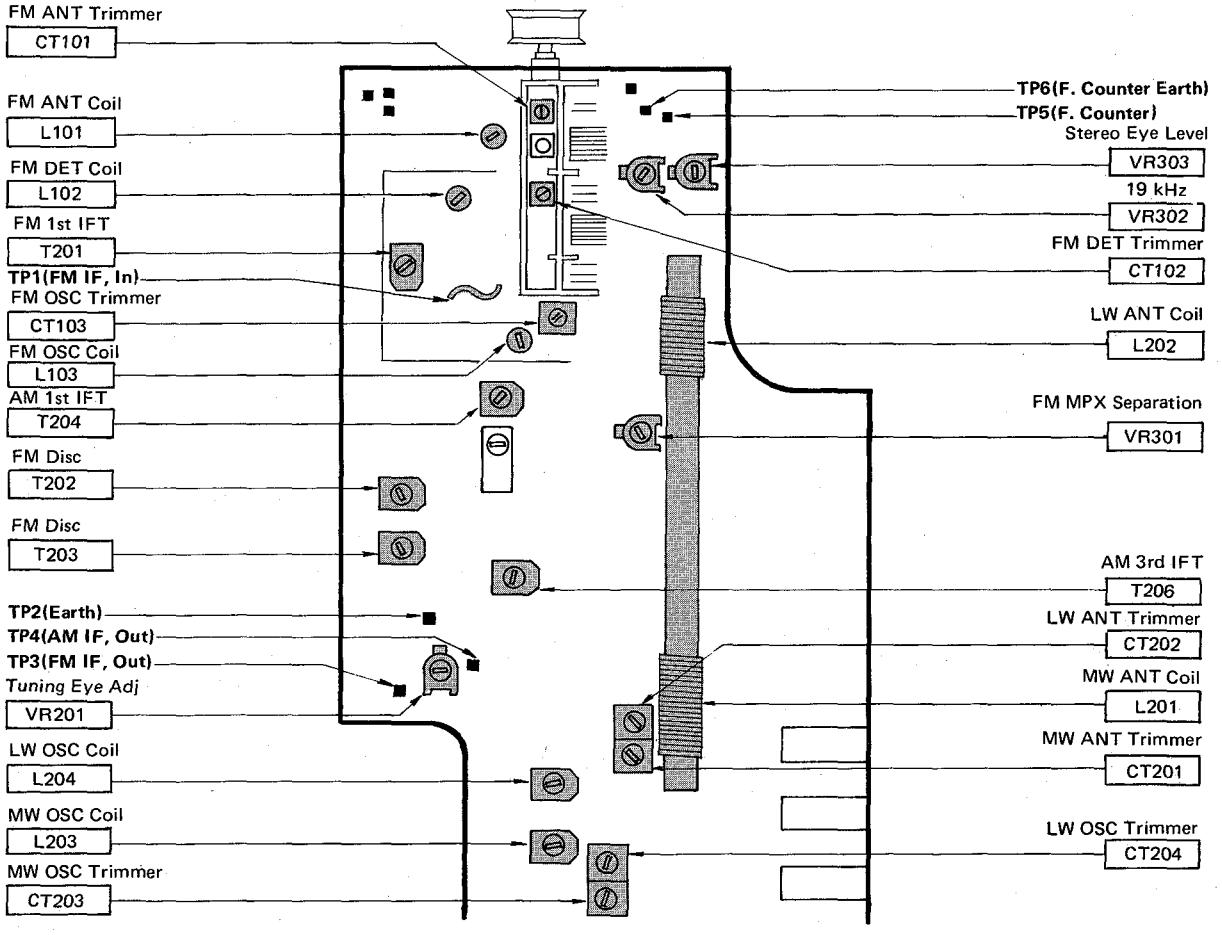
Notes:

1. Stereo Modulator: Connect Stereo Modulator to EXT. Mod. terminal of signal generator.
2. Signal Generator: Modulation Rate of 19 kHz Pilot signal 10%
   Modulation Rate of Right and Left Signal 27%
   Output Level ..... 60 dB
3. Tuner (Balance Control): *Adjust balance control so that output level from both channels becomes equal.*

REQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna.	Connect across speaker jack.	Connect vertical amp. input of scope to terminal of VTVM.	VR301 (Separation Control)	Adjust VR301 for minimum indication of VTVM from the left side output when the right side of stereo modulator is modulated. Adjust VR301 in the same way for the right side. Adjust for best balance between "L to R" and "R to L" separation.

Note: When aligning separation, disconnect frequency counter.

ALIGNMENT POINTS (RADIO)



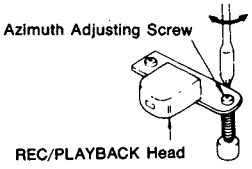
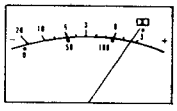
ALIGNMENT INSTRUCTIONS (CASSETTE TAPE DECK)

Control Positions:
1. Function Selector ..... TAPE/MIC
2. Dolby Switch ..... Out.

BIAS ALIGNMENT

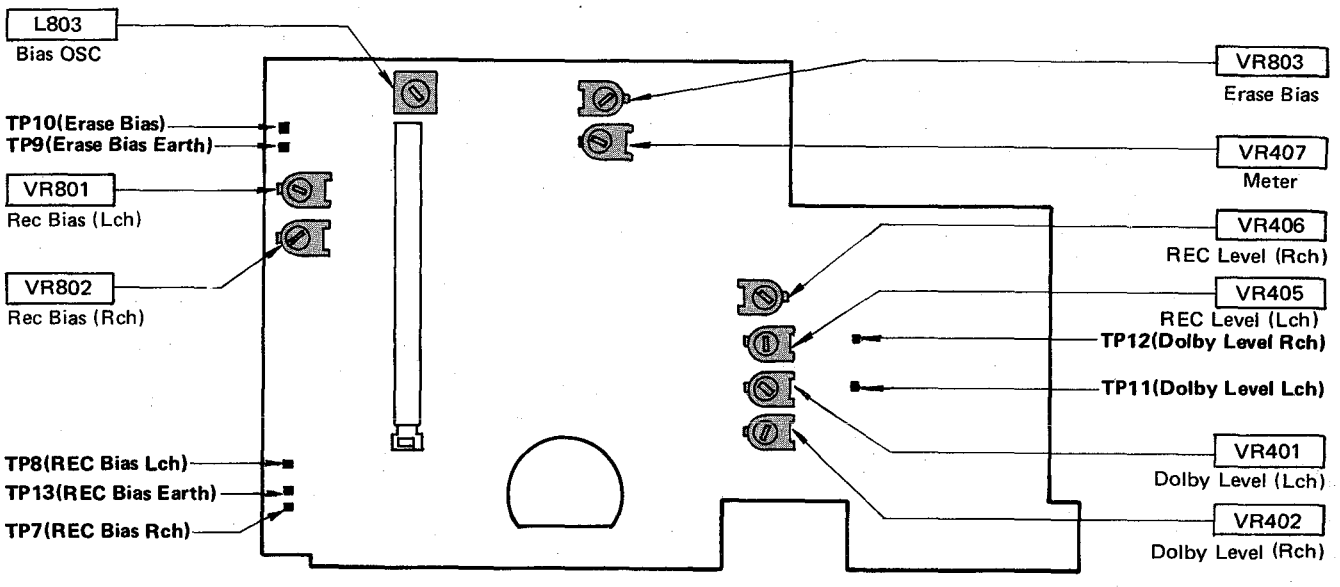
STEP	ALIGNMENT ITEM	VTVM CONNECTION		TAPE DECK CONDITION	ADJUST	REMARKS
		Positive	Negative			
1	Oscillator Coil	TP10	TP9	• Recording Condition • NORMAL Position	L803	• Whistle defeat switch to "A". • Adjust L805 for max. reading on VTVM, and should be within 0.5V when the Whistle Defeat Switch is "B".
2	Erase Voltage			• Recording Condition • CrO_2 Position	VR803	• Whistle defeat switch to "A" or "B". • Adjust VR803 for 12V reading on VTVM.
3	Recording Bias	TP8 (L channel)	TP13	• Recording Condition • NORMAL Position	VR801	• Whistle defeat switch to "A". • Adjust VR801 and VR802 for 3.7 mV ±0.1mV reading on VTVM and should be within 0.3mV when the Whistle Defeat Switch is "B".
		TP7 (R channel)	TP13		VR802	

AZIMUTH, DOLBY, REC CURRENT ALIGNMENT

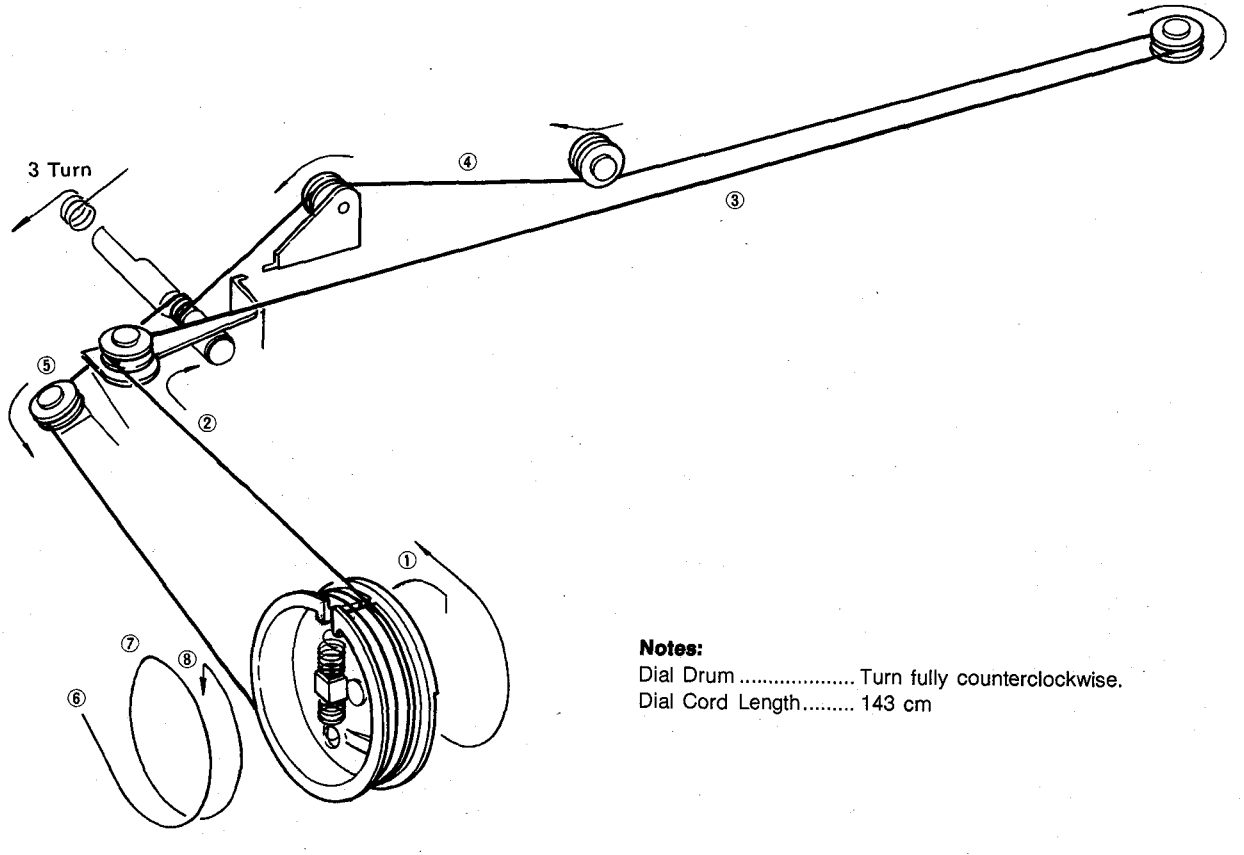
1	R/P Head Azimuth	Speaker Terminal	Speaker Terminal	NORMAL	R/P Head Scres	• Dolby switch OUT and playback a test tape (VTT671) • Turn R/P Head Screw to get max. output of of speaker. 
2	Dolby Level	TP11 (L channel)	TP13	NORMAL	VR401	• Dolby switch to IN and playback a test tape (TMT6130) Adjust VR401 and VR402 for 580mV ±20mV reading on VTVM.
		TP-12 (R channel)	TP13		VR402	
3	VU Meter	.....	.....	NORMAL	VR407	• Dolby switch IN and playback a test tape (TMT6130). Adjust VR407 so that needle die rests at ±**3 dB** (▯▯mark). 
4	REC Current	TP7 (L channel)	TP13	NORMAL	VR405	• Connect TP10 to TP9. • Dolby switch to IN. Apply 1 kHz audio signal to TP14 and TP15. REC Level Volume at +**3 dB** (▯▯mark) on VU meter. Adjust VR405 and VR406 for 0.56 mV reading on VTVM.
		TP8 (R channel)	TP13		VR406	

Notes: 1. Do not touch R/P Head and Erase Head when aligning.
2. L801 and L802 are pre-aligned. Do not touch them.
3. TMT6130 is DOLBY LEVEL calibration tape.

ALIGNMENT POINTS (CASSETTE TAPE DECK)



DIAL CORD STRINGING GUIDE

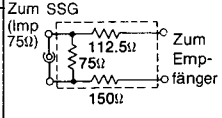


Notes:
Dial Drum ..... Turn fully counterclockwise.
Dial Cord Length..... 143 cm

ANWEISUNGEN ZUM ABGLEICH –1

■ AM-Abgleich

Hinweise:
1. Lautstärkeregler..... Maximum (AM-IF und RF, FM-RF);
2. Empfangsbereichschalter..... LW, MW, FM AUTO, FM MONO
3. Der Ausgang des Messoszillators sollte nicht höher als nötig sein um den Ausgangswert zu erhalten.
4. Sich vergewissern, ob die Lautsprecheranlage während des Abgleichs an den Tuner angeschlossen ist.

SCHRITTE	MESSOSZILLATOR oder WOBBELGENERATOR		EINSTELLUNG DER ABSTIMM-SKALA	AMZEOGE (RVM oder SKOP)	EINSTELLEN	BEMERKUNGEN
	ANSCHLUSS	FREQUENZ				
AM-ZF-ABGLEICH UND HF-ABGLEICH						
1 (AM)	Aux mehreren Drahtwindungen eine Schleife bilden und das Signal in die Schleife des Receivers abstrahlen.	455 kHz 30% Mod. mit 400 Hz.	Punkt der Nicht-interferenz	Ausgangsmeß-instrument über Lautsprecher-buchse (L).	T204 (AM 1. Zwischen-frequenz-Überträger) T206 (AM 3. Zwischen-frequenz-Überträger)	• Auf maximalen Ausgang einstellen.
2 (LW)		145 kHz 30% Mod. mit 400 Hz	145 kHz (10,3 mm)		L202 (LW-Antennenspule) L204 (LW-Schwingspule)	• Auf maximalen Ausgang einstellen durch Verschieben der Spule L202 entlang dem Ferritkern. • Siehe Bemerkung.
3 (LW)		350 kHz 30% Mod. mit 400 Hz	350 kHz (137,9 mm)		CT202 (LW-Antennentrimmer) CT204 (LW-Schwingtrimmer)	• Ausgang einstellen. Schritte (2) und (3) wiederholen.
4 (MW)		550 kHz 30% Mod. mit 400 Hz	550 kHz (15,3 mm)		L201 (MW-Antennenspule) L203 (MW-Schwingspule)	• Auf maximalen Ausgang einstellen durch Verschieben der Spule L201 entlang dem Ferritkern. • Siehe Bemerkung.
5 (MW)		1500 kHz 30% Mod. mit 400 Hz	1500 kHz (132,7 mm)		CT201 (MW-Antennentrimmer) CT203 (MW-Schwingtrimmer)	• Auf maximalen Ausgang einstellen. • Schritte (4) und (5) wiederholen.
Bemerkung: Nach Abgleitch die Antennenwindungen L202, 201 mit Wachs zementieren.						
FM-IF-ABGLEICH						
1	Hohe Seite durch 0,001 μF zu Punkt TP1 und TP2 (Erde).	10,7 MHz (400 kHz SWP)	Punkt der Nicht-Interferenz (auf gegen 98 MHz)	Vertikalen Verstärkereingang des Messoszillators mit Punkt TP3 und TP2 (Erde) verbinden.	T201 (FM IFT) T202 (FM DISC)	• Auf maximale Amplitude und symetrische Kurve einstellen. • Siehe Bemerkung.
2					T203 (FM DISC)	• Auf maximale Amplitude und korrekte Linearität zwischen ±100 kHz einstellen.
Bemerkung: Vor Ausführung des Schrittes 1 die Kerne des T203 ganz gegen den Uhrzeigersinn drehen.						
FM-RF-ABGLEICH						
1	Über Hilfsantenne an EXT. FM-Antennenanschluss anschliessen.	90 MHz 30% Mod. mit 400 Hz	90 MHz (19,6 mm)	Ausgangsmeter über Lautsprecherbuchse (L).	L103 (FM OSC) L101 (FM ANT) L102 (FM OSC)	• Auf maximalen Ausgang einstellen.
2	 FM-HILFSANTENNE	106 MHz 30% Mod. mit 400 Hz	106 MHz (125,7 mm)		CT101 (FM ANT Trimmer) CT102 (FM DET Trimmer) CT103 (FM OSC Trimmer)	• Auf maximalenAusgang einstellen. • Schritte (1) und (2) wiederholen.
Bemerkungs: 1. Da drei Ausgangsanzeigen vorliegen, müssen die Einstellungen bei Mittenfrequenz durchgeführt werden. 2. Um Abgleiten der FM-Skala (87,5 oder 108 MHz) zu korrigieren, die Spule L103 und den Trimmer CT103 miteinander abstimmen.						

ANWEISUNGEN ZUM ABGLEICH –2

■ UKW-Stereoabgleich

Einstellungen:

Lautstärkeregler ..... Hörpegel des Lautsprechertons
Tonfarbenregler ..... Mitte
Empfangsbereich-Wähler ..... FM AUTO
Balanceregler ..... Mitte

GERÄTEANSCHLUSS	EINSTELLEN	BEMERKUNGEN
Signalfrequenzmesser mit TP5 und TP6 an 98 MHz, Modulation 30%, Eingang 60 Db anschliessen.	VR302	VR302 auf dem Signalfrequenzmesser auf 19 kHz ± 100 Hz einstellen.
TRENNUNGSABGLEICH		

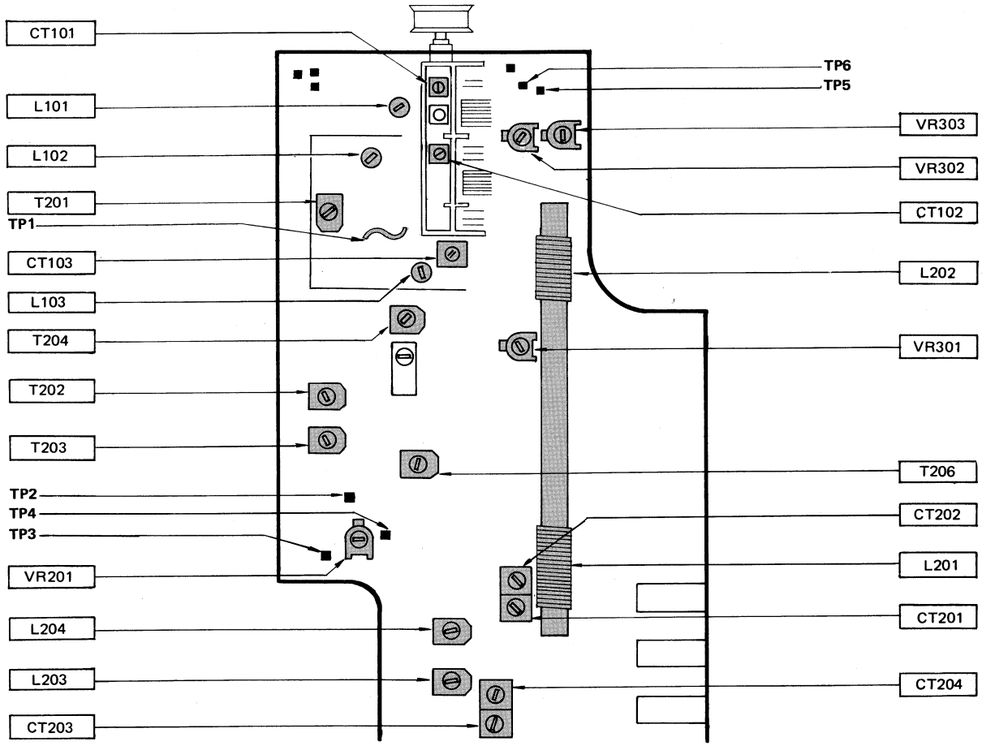
Bemerkungs:

1. Stereomodulator: Stereomodulator an EXT. Mod.-Klemme des Messoszillators anschliessen.
2. Messoszillator: Modulationsgeschwindigkeit des 19 kHz Pilottones 10%
   Modulationsgeschwindigkeit des rechten und linken Signals 27%
   Ausgangspegel ..... 60 dB
3. Tuner (Balanzeregler): Balanceregler so einstellen, dass die beiden Kanäle gleich sind.

GERÄTEANSCHLUSS			EINSTELLEN	BEMERKUNGEN
MESSOSZILLATOR	RVM	OSZILLOSKOP		
Über Hilfsantenne mit EXT. FM-Antennenklemme verbinden.	Über Lautsprecherbuchse ausschliessen.	Vertikalen Verstärkereingang des Oszilloskops mit RVM-Klemmen verbinden.	VR301 (Trennregler)	VR301 auf minimale RVM-Anzeige vom linksseitigen Ausgang einstellen, wenn die rechte Seite des Stereomodulators moduliert wird. VR301 auf gleiche Weise für die rechte Seite einstellen. Stereotrennung auf optimale Balance zwischen L-R und R-L einstellen.

Bemerkung: Beim Abgleich der Stereotrennung ist der Signalfrequenzmesser abzuschalten.

PUNKT ZUM EMPFANGSGERÄT

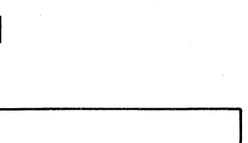
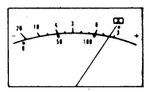


DEUTSCH

ANWEISUNGEN ZUM ABGLEICH

Kontroll-Einstellungen:

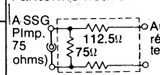
1. Funktionswahlschalter ..... TAPE/MIC
2. Dolby-Schalter ..... OUT

SCHRITT	ABGLEICH-OBJEKT	ROHRENVOLTMETER (RVM)-ANSCHLUSS		EINSTELLUNG DES TONBAND-GERÄTES	EINSTELLEN	BEMERKUNGEN
		Positiv	Negative			
NULLABGLEICHUNG ABGLEICH						
1	Oszillator-Spule	TP10	TP9	• Aufnahme • NORMAL	L803	• Pfeifton-Unterdrückschalter auf A. • L803 auf maximale Anzeige am VTVM einstellen; bei Pfeifton-Unterdrückschalter auf B sollte die VTVM-Anzeige innerhalb 0,5V liegen.
2	Lösch-Spannung			• Aufnahme • CrO_2	VR803	• Pfeifton-Unterdrückschalter auf A oder B. • VR803 auf 12V-Anzeige am VTVM einstellen.
3	Nullabgleichung für Aufnahme	TP8 (L-Kanal)	TP13	• Aufnahme • NORMAL	VR801	• Pfeifton-Unterdrückschalter auf A. • VR801 und VR802 auf 3,9 mV ± 0,1 mV Anzeige auf dem VTVM einstellen; bei Pfeifton-Unterdrückschalter auf B sollte die VTVM-Anzeige innerhalb 0,3 mV liegen.
		TP7 (R-Kanal)	TP13		VR802	
AZIMUTH-, DOLBY-, REC-STROM-ABGLEICH						
1	R/P-Kopf-Azimuth	Sprecher	Sprecher	NORMAL	R/P-Kopf-Schraube	• Dolby-Schalter auf OUT und Testband (VTT671) abspielen. • R/P-Kopf-Schraube für maximale Ausgangsleistung der Lautsprecher derhen. 
2	Dolby-Pegel	TP11 (L-Kanal)	TP13	NORMAL	VR401	• Dolby-Schalter auf IN stellen und ein Testband (TMT6130) abspielen. VR401 und VR402 auf 580 mV-Anzeige auf dem VTVM einstellen.
		TP-12 (R-Kanal)	TP13		VR402	
3	VU-Meter	.....	.....	NORMAL	VR407	• Dolby-Schalter auf IN stellen und ein Testband (TMT6130) abspielen. VR407 so einstellen, dass die Nadel **+3 dB** (▯▯-Markierung) anzeigt. 

INSTRUCTIONS DE ALIGNEMENT–1

■ Alignment de AM

Position des commandes:
1. Contrôle de volume..... Au maximum (AM-IF et RF, FM-RF; au minimum (FM-IF)
2. Commutateur Dolby..... Out (sortie)
3. La sortie du générateur de signaux ne doit pas être supérieure à celle nécessaire pour obtenir la lecture de sortie.
4. S'assurer que les enceintes sont raccordées au récepteur quand on effectue le alignement.

ETAPE	GENERATEUR DE SIGNAUX ou DE BALAYAGE		POSITION DU CURSEUR SUR LE CADRAN	VOLTMETRE ou OSCILLOSCOPE	AJUSTAGE	REMARQUES
	CONNEXION	FREQUENCE				
ALIGNMENT DE F.I. ET H. F. EN AM						
1 (AM)	Façonner une boucle de quelques tours de fil et rayonner le signal dans la boucle du récepteur.	455 kHz module à 30% sur 400 Hz	Point sans interférence	Voltmètre sur la prise du haut-parleur gauche (L).	T204 (1ère TFI sur AM) T206 (3ème TFI sur AM)	• Regler pour une sortie maximale.
2 (LW)		145 kHz module à 30% sur 400 Hz	145 kHz (10,3 mm)		L202 (Bobine d'antenne GO) L204 (Bobine de l'oscillateur GO)	• Régler pour une sortie maximale en déplaçnt la bobine L202 sur le noyau de ferrite. • Se référer à remarque
3 (LW)		350 kHz module à 30% sur 400 Hz	350 kHz (137,9 mm)		CT202 (Compensateur d'antenne GO) CT204 (Compensateur de l'oscillateur GO)	• Régler pour une sortie maximale. Répéter les étapes (2) et (3).
4 (MW)		550 kHz module à 30% sur 400 Hz	550 kHz (15,3 mm)		L201 (Bobine d'antenne OM) L203 (Bobine de l'oscillateur OM)	• Régler pour une sortie maximale en deplaçant la bobine L201 sur le noyau de ferrite. Se référer à remarque.
5 (MW)		1500 kHz module à 30% sur 400 Hz	1500 kHz (132,7 mm)		CT201 (Compensateur d'antenne QM) CT203 (Compensateur de l'oscillateur QM)	• Régler pour une sortie maximale. Répéter les étapes (4) et (5).
Remarque: Cimenter la bobine d'antenne L202, 210 à la cire après avoir terminé l'alignement.						
ALIGNEMENT FM-FI						
1	Côté haut par 0,001 μF au point TP1 et TP2 (masse).	10,7 MHz (400 kHz (SWP)	Point de non-interférence (en circuit/environ 98 MHz)	Connecter l'entrée d'amp. vert. de l'oscilloscope au point TP3 et TP2 (masse).	T201 (FM IFT) T202 (FM DISC)	• Ajuster pour l'amplitude maximale et courbe symétrique. • Se référer à remarque.
2					T203 (FM DISC)	• Régler pour l'amplitude maximale et la linéarité convenable entre les marqueurs d'environ +100 kHz.
Remarque: Avant de procéder à l'alignement dans étape 1, tourner les noyaux de T203 à found dans le sens contraire des aiguilles d'une montre.						
ALIGNEMENT FM-FR						
1	Connecter la borne d'antenne EXT. FM par l'antenne fictive.	90 MHz module à 30% sur 400 Hz	90 MHz (19,6 mm)	Voltmètre sur la prise du haut-parleur gauche (L).	L103 (FM OSC) L101 (FM ANT) L102 (FM OSC)	• Régler pour une sortie maximale.
2	 ANTENNE FICTIVE FM	106 MHz module à 30% sur 400 Hz	106 MHz (125,7 mm)		CT101 (FM ANT) Trimmer) CT102 (FM DET Trimmer) CT103 (FM OSC Trimmer)	• Régler pour une sortie maximale. • Répéter les étapes (1) et (2).
Remarques: 1. Comme on aura trois lectures de sortie présentes, les réglages doivent être faits à la fréquence centrale. 2. Pour corriger la dérive sur l'échelle d'accord FM (87,5 ou 108 MHz), régler la bobine L103 et le condensateur d'antenne CT103 l'un avec l'autre.						

FRANÇAIS

INSTRUCTIONS DE ALIGNEMENT–2

■ Alignment stéréo FM

Position des commandes:
Block d'accord:
- Contrôle de volume ..... Niveau normal d'écoute
- Réglage de tonalité ..... A la position centrale
- Sélecteur de fonction ..... FM AUTO
- Bouton de présélection FM ..... En position MANUAL

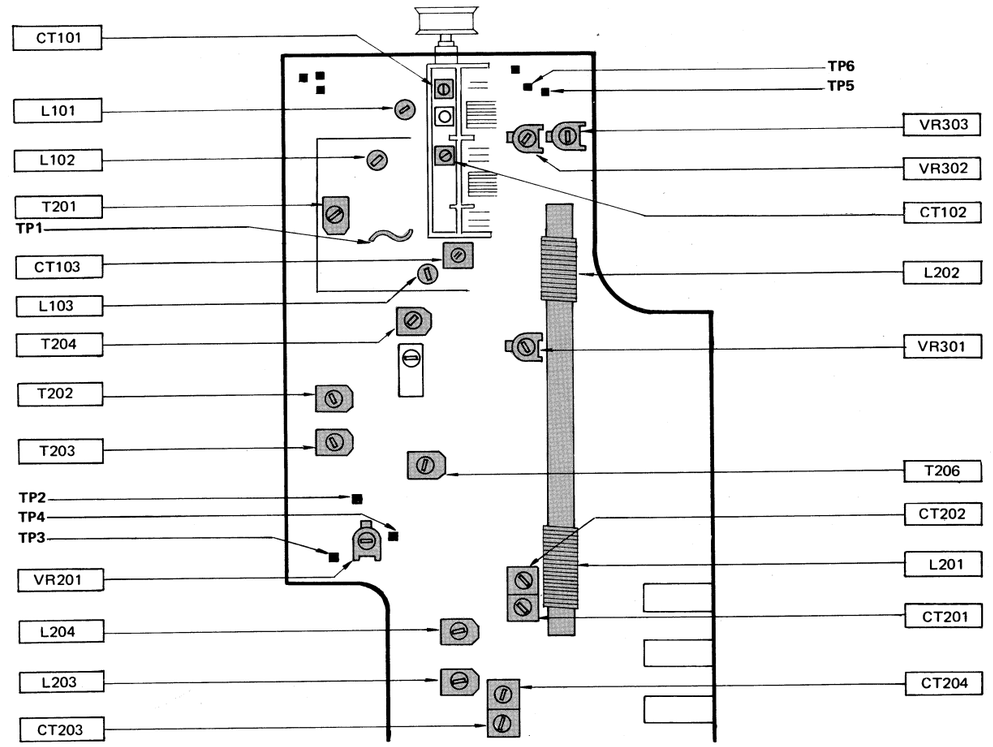
CONNEXION DES INSTRUMENTS	REGLAGE	REMARQUES
Brancher un fréquencemètre à TP5 et TP6 à 98 MHz modulé à 30% sur entrée de 60 dB.	VR302	Ajuster VR302 pour une lecture de 19 kHz ± 100 Hz sur fréquencemètre.
ALIGNMENT DE LA DIAPHONIE		

Remarques:
1. Modulateur stéréo: Connecter le modulateur stéréo à la borne Mod. Ext. du générateur de signaux.
2. Générateur de signaux: Taux de modulation du signal pilot de 19 kHz 10%
   Taux de modulation des signaux gauche et droit 27%
   Niveau de sortie ..... 60 dB
3. Tuner (contrôle d'équilibrage): Régler le contrôle d'équilibrage de sorte que la sortie des deux canaux soit égale.

CONNEXION DES INSTRUMENTS			REGLAGE	REMARQUES
GENERATEUR DE SIGNAUX	VOLTMETRE	OSCILLOSCOPE		
Connecter à la borne d'antenne EXT. FM via le circuit de couplage.	Connecter à la prise de haut-parleur.	Connecter la sonde verticale à la sonde du voltmètre.	VR301 (Commande de séparation).	Régler VR301 pour obtenir l'indication minimale du voltmètre électronique depuis la sortie du côté gauche quand le côté droit du modulateur stéréo est modulé. Régler VR301 la même manière que pour le côté droit. Régler de façon à obtenir l'équilibrage optimal entre séparation "L à R" (gauche à droite) et "R à L" (droite à gauche).

Remarque: Pour l'alignement de la séparation, il faut débrancher le fréquencemètre.

POINTS D'ALIGNEMENT

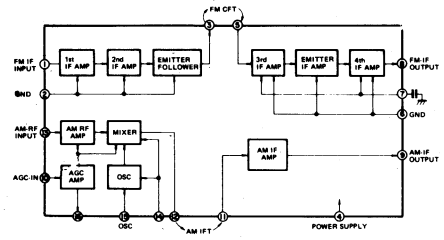


SCHEMATIC DIA

IC BLOCK

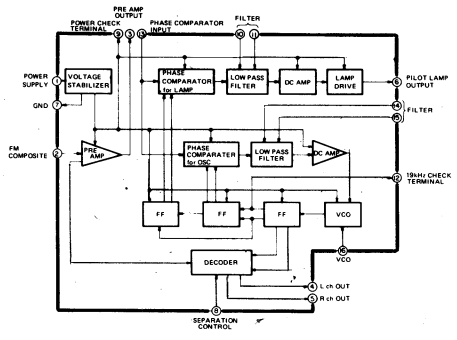
IC201

AN217P AM/FM IF AMP



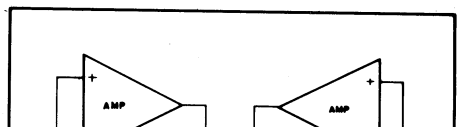
IC301

LA3350S FM MPX



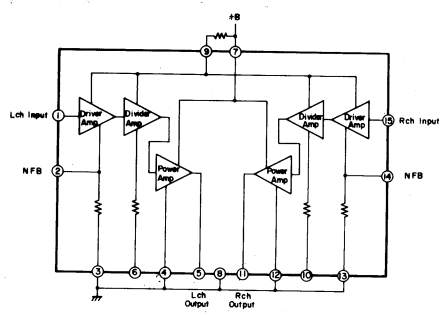
IC601

M51521L EQ AMP



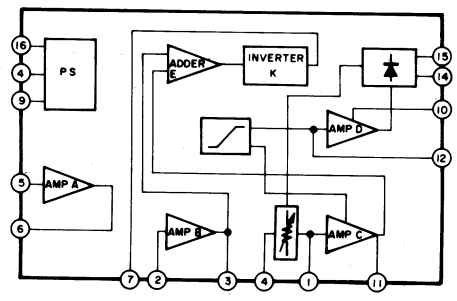
IC701

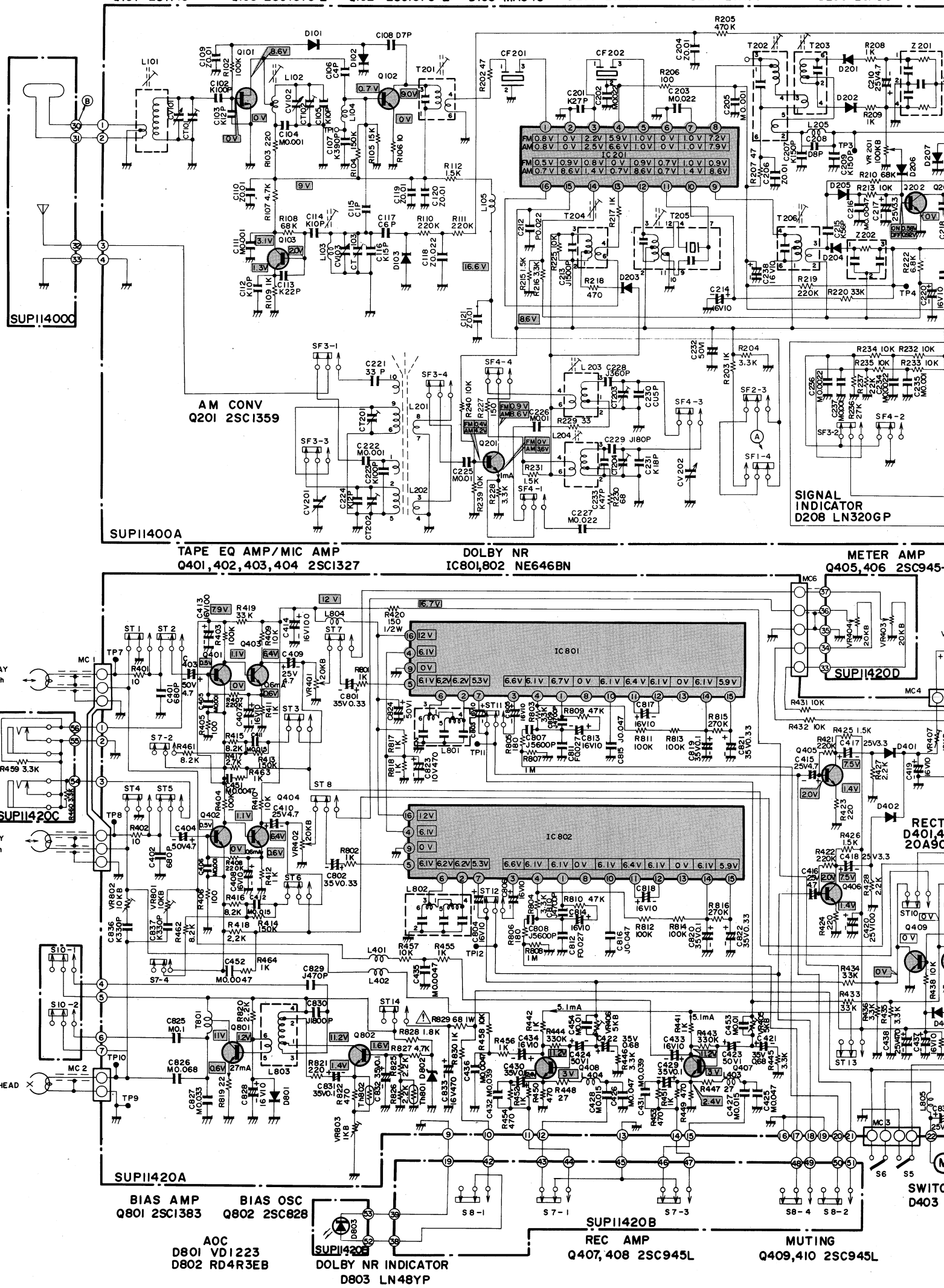
STK436 POWER AMP



IC801, 802

NE646BN DOLBY





R	459 450 461 462 102 103 107 109 108 112 202 240 215 216 225 217 206 205 207 220 208 209 222 211 401 402 403 407 419 409 104 105 106 110 111 227 239 231 229 218 230 203 204 219 210 213 232 228 801 420 803 807 809 811 813 814 815 431 421 425 236 234 233 405 404 415 416 408 411 463 406 417 418 820 413 410 821 822 802 817 818 829 458 805 804 808 810 812 441 816 432 423 426 237 235 223 457 828 455 830 456 806 442 444 446 453 449 443 447 445 422 434 427 428 438 819 412 414 464 825 826 827 454 452 450 448 451 424 433 436 435
C	109 103 102 110 111 104 113 105 114 106 107 115 116 108 117 119 120 121 212 201 213 202 228 230 203 204 214 205 206 207 208 209 210 238 215 216 217 220 401 413 112 414 224 222 221 118 225 226 809 227 233 229 231 232 453 236 237 234 235 402 403 405 407 411 409 801 802 223 824 823 803 805 807 808 811 813 815 454 817 433 819 821 421 415 417 420 419 836 837 825 404 406 408 412 410 829 831 435 804 806 434 810 814 816 818 429 820 822 427 416 418 438 437 826 827 452 828 451 830 832 833 436 432 430 812 424 428 422 426 431 423 425
L	101 102 103 104 201 202 105 203 204 205 803 804 401 402 801 802 404 403 805 806
T	801 201 204 205 202 206 203
S	SI0-1 SI0-2 ST1 ST4 ST2 ST5 S7-2 S7-4 ST3 SF3-1 SF3-3 ST6 ST7 ST8 ST14 SF3-4 SF4-4 S8-1 SF4-1 ST11 S7-1 SF4-3 S7-3 SF2-3 SF1-4 S8-4 S8-2 ST13 SF3-2 ST10 SF4-2 ST9 S6 S5

* This diagram might be modified without notice for further development of technology.

EMATIC DIAGRAM

AM RECT D205 20A90
SWITCHING D206 20A90
METER AMP Q202 2SC828 Q203 2SA564
AOC D207 VD1121
SWITCHING D209 MA150
FM MPX IC301 LA3350A
STEREO INDICATOR D301 LN220RP
TUNING INDICATOR D208 LN320GP
SUP11400E
SIGNAL INDICATOR D208 LN320GP
METER AMP Q405,406 2SC945-L
SUP11420D
PHONO EQ AMP IC601 M5152IL
SUP11400D
SUP11400B
RECT D401,402 20A90
MUTING Q409,410 2SC945L
SWITCHING D403 MA150
AF 2nd AMP Q503,504 2SC1327
STABILIZER Q901 2SC1096
AOC D901 RD18E
SWITCHING D501 MA150
MUTING Q505,506 2SC1684
AF 1st AMP Q501, 502 2SC1327
POWER AMP IC701 STK436
RECT D904,905 10E1
SUP11440A
RECT D902 S4VB10
RECT D903 SVDS1RB10
SUP11440B
SUP8182
SPEKER Lch
SPEKER Rch
FOR GF

ST-1 ~ ST-14 (BOTTOM VIEW)

SF-1 ~ SF-6 (BOTTOM VIEW)

S7 S8

(BOTTOM VIEW) J3

(BOTTOM VIEW) S3

S10-1

(BOTTOM VIEW) S10-2

Q203

Q103,102,201,202
401,402,403,405,406
404,501,502,407,408
503,504,505,409,410
801,802,506

Q101

Q901

IC601 (SIDE VIEW)

IC701 (SIDE VIEW)

IC201,301,801,802 (TOP VIEW)

L801,802

T205

T201,204 203,206 L203,204

T202

L803

(BOTTOM VIEW)

IMPORTANT SAFETY NOTICE

The ⚠ mark on this schematic diagram incorporates special features important for safety.
When servicing it is essential that only manufacturers specified parts be used for the critical components marked ⚠ in the schematic

NOTE

1. SF-1~SF-6 Fonction selector switch in "FM AUTO" position
   SF-1- FM AUTO SF-2- FM MONO SF-3- MW
   SF-4- LW SF-5- PHONO SF-6- TAPE/MIC
2. S1 Power switch in "OFF" position
3. S2 Power voltage selector in "240V" position
4. S3 Phono speed selector switch in "45" position
5. S4 Phono motor switch in "OFF" position
6. S5 Tape section muting switch in "OFF" position
7. S6 Tape motor switch in "OFF" position
8. ST 1~ST 9 REC PLAY selector switch in "PLAY" position
9. S7-1, 7-3, 7-4 TAPE selector switch in "NORMAL" position
10. S8-1, 8-2, 8-4 DOLBY NR switch in "OUT" position
11. S10-1, S10-2. WHISTLE DEFEAT switch in "A" position
12. S11 Muting switch in "OFF" position
13. DC voltages of cassette part are to be measured with VTVM in "REC" and "PLAY" position
14. Letters M' P' K' J indicate tolerance of capacitors as follows
    M = ±20%, P = +80% −20%, K = ±10%, J = ±5%

LW L202 MW
L205 L201 L201
(BOTTOM VIEW)

SF6-2 SF5-1 SF2-1 SF1-2
SF4-2 SF3-2
SF6-1 SF5-2 SF2-2 SF1-1
S8-4 S8-2 ST13 ST10 ST9 S6 S5 SF3-2 SF4-2 SF6-2 SF6-1 SF1-2 SF1-1 S11 S4 S2 S1

WIRING DIAGR

PILOT LAMP

CARTRIDGE

White Blue Green Red Black

FM ANT AM ANT

P1-C

To P1-MC5

S3 PHONO SPEED SELECTOR SWITCH

S4 PHONO MOTOR SWITCH

M.P

PHONO MOTOR

GND

SPEAKERS Rch Lch

SP

P3-A

To P3-B-14
To P3-B-16
To P3-B-13
To P3-B-15
To P3-B-12

GND

IC701

	1	2	3	4	5	6	7	8	9	10	11	12	13
Q901	11V	10.6V	0V	0V	21.2V	25.1V	42.5V	0V	41.2V	4.9V	20.6V	0V	0V
C	24V												
B	18V												
E	17.5V												

DIAL POINTER LAMP

Red Yellow White Blue

To J44

To J43

P1-A

SUP 11400 A

Q101

D	8.6V
G	0V
S	0V
ID	—

Q102

C	9.0V
B	0.7V
E	0V
IC	—

Q103

C	3.1V
B	2.0V
E	1.3V
IC	—

Q501,502

C	4.5V
B	1.3V
E	0.7V
IC	—

Q505,506

C	0V
B	ON 0.6V OFF 0V
E	0V
IC	—

Q503,504

C	3.9V
B	0.9V
E	0.3V
IC	0.9mA

VR501,502 BASS CONTROL

VR503,504 TREBLE CONTROL

VR507 BALANCE CONTROL

VR505,506 VOLUME CONTROL

FM STEREO

SF1 ~ SF6 FUNCTION SELECTOR SWITCH

S11 MUTING SWITCH

Q202

C	ON 14V OFF 0V
B	ON 0.58V OFF 0.92V
E	0V

Q203

C	0V
B	ON 0V OFF 14V
E	ON 0.8V OFF 15V

Q201

	AM	FM
C	8.6V	0.9V
B	4.2V	0.4V
E	3.6V	0V
IC	1mA	

IC601

	1	2
	1.2V	0.7

IC201

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
AM	0.8V	0V	2.5V	6.6V	1.0V	0V	1.0V	7.9V	8.6V	1.4V	0.7V	8.6V	0.7V	1.4V
FM	0.8V	0V	2.2V	5.9V	1.0V	0V	1.0V	7.2V	0.9V	1.0V	0.7V	0.9V	0V	0.8V

IC301

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MONO	10V	2.9V	5.5V	7.1V	7.2V	15.5V	0V	0.6V	6.3V	2.1V	2.1V	2.2V	2.1V	2.1V
STEREO	9.3V	2.9V	5.4V	6.4V	6.4V	0.6V	0V	0.6V	6.3V	2.1V	2.1V	2.1V	2.1V	2.1V

* This diagram might be modified without notice for further development of technology.

RING DIAGRAM

8	9	10	11	12	13	14	15
0V	41.2V	4.9V	20.6V	0V	0V	10.6V	11V

NOTE for Frace
Germany, MESE, Austria
Netherlands, Belgium,
Malta

FM ANT

CASSETTE MOTOR

To P2-White To P2-Shield

ERASE HEAD

To P2-MC2

R/P HEAD

To P2-MC1

S6 TAPE MOTOR SWITCH

S5 TAPE MUTING SWITCH

To P2-MC3

S10 WHISTLE DEFEAT SWITCH

VU METER

To P2-MC4

S8 DOLBY NR SWITCH

S7 TAPE SELECTOR SWITCH

P2-E

P2-B

DOLBY NR

VR403,404 REC LEVEL CONTROL

P2-D

SECONDARY

POWER TRANSFORMER

PRIMARY

S2 POWER VOLTAGE SELECTOR SWITCH

S1 POWER SWITCH

To Power Cord

AC CORD

To Cassette Motor

To Power Transformer (Secondary)

Refer to Note

GND

P2-A

SUP11420A

P2-C

MIC

P3-B

HP

HEAD PHONES

ST1 ~ ST9 REC / PLAY SELECTOR SWITCH

To S7-10

To S7-12

To S7-9

To S7-7

Q201	AM	FM
C	8.6V	0.9V
B	4.2V	0.4V
E	3.6V	0V
IC	1mA	

IC601	1	2	3	4	5	6	7	8
	1.2V	0.7V	3V	8.8V	0V	3V	0.7V	1.2V

	9	10	11	12	13	14	15	16
	8.6V	1.4V	0.7V	8.6V	0.7V	1.4V	8.6V	0.7V
	0.9V	1.0V	0.7V	0.9V	0V	0.8V	0.9V	0.5V

	9	10	11	12	13	14	15	16
	6.3V	2.1V	2.1V	2.2V	2.1V	2.1V	2.1V	2.8V
	6.3V	2.1V	2.1V	2.1V	2.1V	2.1V	2.1V	2.8V

Q409,410	
C	0V
B	ON 0.6V OFF 0V
E	0V
IC	—

Q407,408	
C	11.2V
B	3V
E	2.4V
IC	5.1mA

Q405,406	
C	7.5V
B	2.0V
E	1.4V
IC	—

Q802	
C	11.2V
B	1.6V
E	1.4V
IC	—

Q801	
C	11V
B	1.2V
E	0.6V
IC	2.7mA

Q403,404	
C	6.4V
B	1.1V
E	0.6V
IC	0.6mA

Q401,402	
C	1.1V
B	0.5V
E	0V
IC	—

IC801,802	1	2	3	4

RING DIAGRAM

8	9	10	11	12	13	14	15
OV	41.2V	4.9V	20.6V	OV	OV	10.6V	11V

NOTE for Frace
Germany, MESE, Austria
Netherlands, Belgium,
Malta

CASSETTE MOTOR

To P2-White To P2-Shield

ERASE HEAD

To P2-MC2

R/P HEAD

To P2-MC1

S6 TAPE MOTOR SWITCH

S5 TAPE MUTING SWITCH

To P2-MC3

S10 WHISTLE DEFEAT SWITCH

VU METER

To P2-MC4

FM ANT

Refer to Note

Red To P3-A-(7)
White To P3-A-(8)
Yellow To P3-A-(9)
Blue To P3-A-(10)
Blue To P3-A-(11)

SECONDARY
POWER TRANSFORMER
PRIMARY

Blue
Blue
White
To Power Transformer (Secondary)

S1 POWER SWITCH

To Power Cord

S2 POWER VOLTAGE SELECTOR SWITCH

Black Red Brown Violet Gray White Orange

AC CORD

To Cassette Motor

Shield White

To P2-(74) (73) (72) (71) (70) (72)

S8 DOLBY NR SWITCH

P2-E

D803

DOLBY NR

P2-B

S7 TAPE SELECTOR SWITCH

P2-D

VR403 VR404

VR403,404 REC LEVEL CONTROL

To P2-(72) (70)

To S7-10
To S7-12
To S7-9
To S7-7

GND

P2-A

P3-B

HP

HEAD PHONES

To P3-A-(5) (1) (3) (6) (2) (4)

ST1 ~ ST9 REC / PLAY SELECTOR SWITCH

P2-C

MIC

Q201	AM	FM
C	8.6V	0.9V
B	4.2V	0.4V
E	3.6V	OV
IC	1mA	

IC601	1	2	3	4	5	6	7	8
	1.2V	0.7V	3V	8.8V	OV	3V	0.7V	1.2V

	9	10	11	12	13	14	15	16
	8.6V	1.4V	0.7V	8.6V	0.7V	1.4V	8.6V	0.7V
	0.9V	1.0V	0.7V	0.9V	OV	0.8V	0.9V	0.5V

	9	10	11	12	13	14	15	16
	6.3V	2.1V	2.1V	2.2V	2.1V	2.1V	2.1V	2.8V
	6.3V	2.1V	2.1V	2.1V	2.1V	2.1V	2.1V	2.8V

Q409,410	
C	OV
B	ON 0.6V OFF 0V
E	OV
IC	—

Q407,408	
C	11.2V
B	3V
E	2.4V
IC	5.1mA

Q405,406	
C	7.5V
B	2.0V
E	1.4V
IC	—

Q802	
C	11.2V
B	1.6V
E	1.4V
IC	—

Q801	
C	11V
B	1.2V
E	0.6V
IC	27mA

Q403,404	
C	6.4V
B	1.1V
E	0.6V
IC	0.6mA

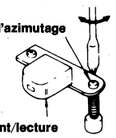
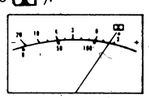
Q401,402	
C	1.1V
B	0.5V
E	OV
IC	—

IC801,802	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	6.7V	6.2V	6.6V	6.1V	6.1V	6.2V	5.3V	OV	OV	6.1V	6.4V	6.1V	OV	6.1V	5.9V	12V
IC802	6.1V															

INSTRUCTIONS D'ALIGNEMENT

■ Alignment du magnétophone à cassette

Position des commandes:
1. Sélecteur de fonction..... TAPE/MIC.
2. Commutateur Dolby ..... OUT

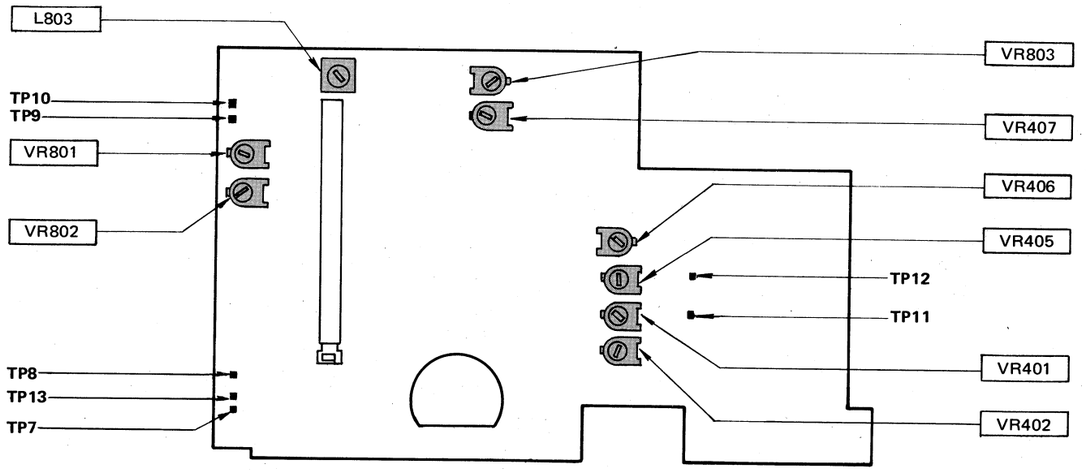
ETAPE	PARTIE D'ALIGNEMENT	CONNEXION DU VOLTMETRE		CONDITION DU MAGNETOPHONE	REGLAGE	REMARQUES
		Positif	Négatif			
1	Bobine d'oscillateur	TP10	TP9	• Condition d'enregistrement • Position "NORMAL"	L803	• Commutateur de suppression de sifflement sur "A". • Régler L805 pour obtenir la lecture max. au voltmètre électron., et qui doit être pas plus de 0,5V quand le commutateur de suppression de sifflement est sur "B".
2	Tension d'effacement			• Condition d'enregistrement • Position CrO_2	VR803	• Commutateur de suppression de sifflement sur "A" ou "B". • Régler VR803 pour obtenir la lecture de 12V au voltmètre électron.
3	Polarisation à l'enregistrement	TP8 (Canal gauche)	TP13	• Condition d'enregistrement • Position "NORMAL"	VR801	• Commutateur de suppression de sifflement sur "A". • Régler VR801 et VR802 pour obtenir la lecture 3,7 mV ± 0,1 mV au voltmètre électron. et qui doit être pas plus de 0,3 mV quand le commutateur de suppression de sifflement est sur "B".
		TP7 (Canal droit)	TP13		VR802	
ALIGNEMENT COURANT D'ENREGISTREMENT, DOLBY, AZIMUT						
1	Azimut de tête d'Enr./Rep.	Haute-parleur	Haut-parleur	NORMAL	Vis de tête d'Enr./Rep.	• Commutateur Dolby SORTI et reproduire une bande d'essai (VTT671). • Tourner la vis de tête d'Enre./Rep. pour obtenir la sortie max. du haut-parleur. 
2	Niveau Dolby	TP11 (Canal gauche)	TP13	NORMAL	VR401	• Commutateur Dolby ENFONCE et reproduire une bande d'essai (TMT6130). Régler VR401 et VR402 pour obtenir la lecture de 580 mV ± 20 mV au voltmètre électron.
		TP12 (Canal droit)	TP13		VR402	
3	VU-Metrè	.....	.....	NORMAL	VR407	• Commutateur Dolby ENFONCE et reproduire une bande d'essai (TMT6130). Régler VR407 de façon que l'aiguille soit à +**3 dB** (marque ◻◻). 

INSTRUCTIONS D'ALIGNEMENT

ETAPE	PARTIE D'ALIGNEMENT	CONNEXION DU VOLTMETRE		CONDITION DU MAGNETOPHONE	REGLAGE	REMARQUES
		Positif	Négatif			
4	Courant d'enr.	TP7 (Canal gauche)	TP13	NORMAL	VR405	• Connecter TP10 à TP9. • Commutateur Dolby ENFONCE. Appliquer un signal audio de 1 kHz à TP14 et TP15. Régler le volume d'ENR. à +**3 dB** (marque ◻◻) sur le VU-mètre. Régler VR405 et VR406 pour obtenir la lecture de 0,56 mV au voltmètre électron.
		TP8 (Canal droit)	TP13		VR406	

Remarques: 1. Ne pas toucher à la tête d'Enr./Rep. et à la tête d'effacement lors de l'alignement.
2. L801 et L802 sont pré-alignés. Ne pas y toucher.
3. TMT613C est une bande d'étalonnage du NIVEAU DOLBY.

POINTS D'ALIGNEMENT



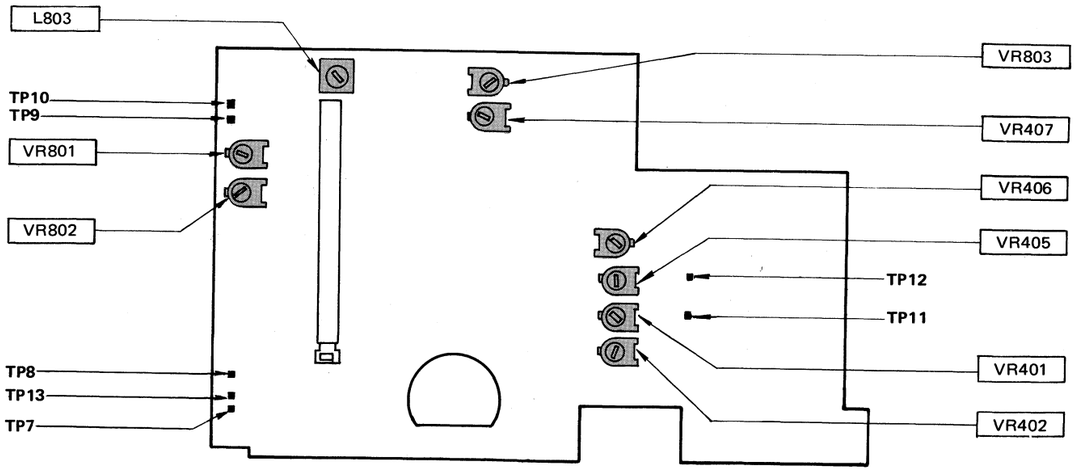
DEUTSCH

ANWEISUNGEN ZUM ABGLEICH

SCHRITT	ABGLEICH-OBJEKT	ROHRENVOLTMETER (RVM)-ANSCHLUSS		EINSTELLUNG DES TONBAND-GERÄTES	EINSTELLEN	BEMERKUNGEN
		Positiv	Negative			
4	REC-Strom	TP7 (L-kanal)	TP13	NORMAL	VR405	• TP10 an TP9 anschliessen. • Dolby-Schalter auf IN einstellen. 1 kHz Audio-Signal auf TP14 und TP15 senden. REC-Pegel auf +**3 dB** (▯▯-Markierung) auf dem VU-Meter einstellen. VR405 und VR406 auf 0,56 mV-Anzeige am VTVM einstellen.
		TP8 (R-Kanal)	TP13		VR406	

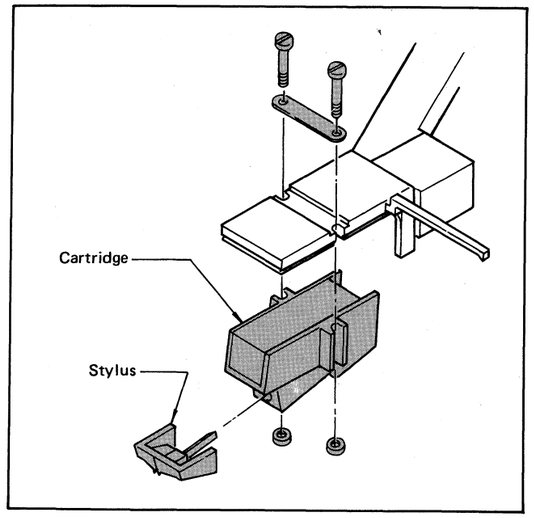
Bemerkungen: 1. R/P-Kopf und Löschkopf beim Agbleich nicht berühren.
2. L801 und L802 sind abgeglichen und sollen nicht berührt werden.
3. TMT6130 ist ein DOLBY-PEGEL Abgleichband.

PUNKT ZUM ABGLEICH

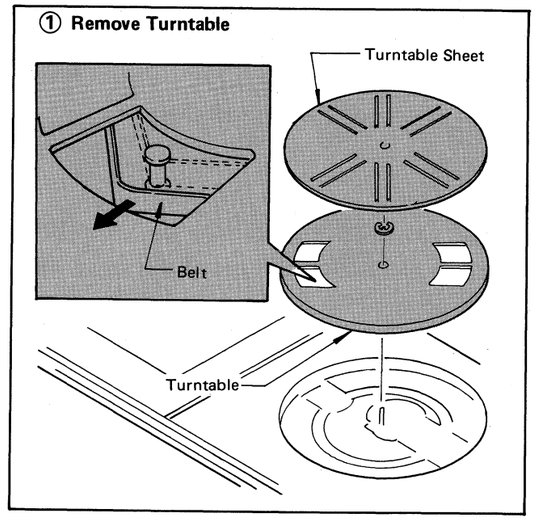


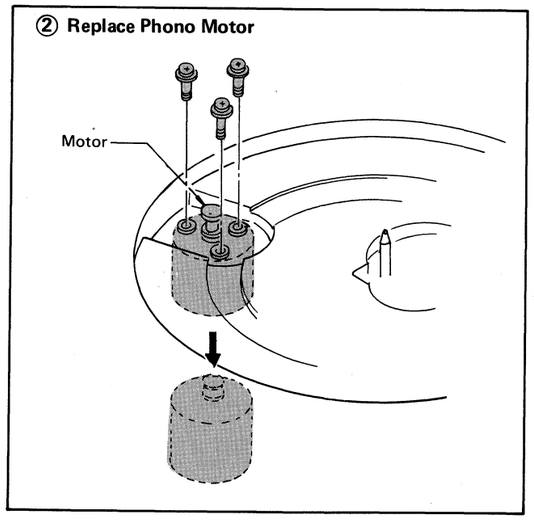
SERVICING THE RECORD PLAYER

■ CARTRIDGE AND STYLUS REPLACEMENT



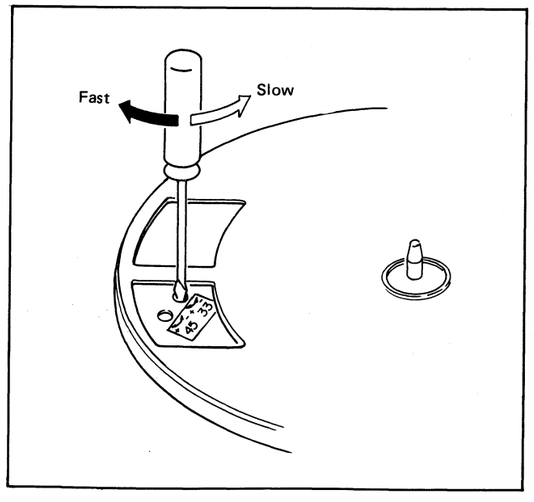
■ PHONO MOTOR REPLACEMENT





■ MOTOR SPEED ADJUSTMENT

Adjust the screw when the turntable rotation going out of normal speed.



REPLACEMENT PARTS LIST

NOTES:

1. Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
2. Parts No. listed in this Parts List are of Service Parts.
3. SG-3000Ⓖ ..... Except Europe
   GF ..... France, MESE, Australia, Netherlands, Belgium, Malta, Germany.

Ref. No.	Part No.	Description	Per Set (pcs.)
TRANSISTORS			
Q101	2SK49	FM RF Amp	1
Q102	2SC1675	FM Mix	1
Q103	2SC1675	FM OSC	1
Q201	2SC1359	AM Conv.	1
Q202	2SC828	Meter Amp	1
Q203	2SA564	Meter Amp	1
Q401,402	2SC1327	Tape Equalizer Amp	2
Q403,404	2SC1327	Mic Amp	2
Q405,406	2SC945L	Meter Amp	2
Q407,408	2SC945L	Rec Amp	2
Q409,410	2SC945L	Muting	2
Q501,502	2SC1327	AF 1st Amp	2
Q503,504	2SC1327	AF 2nd Amp	2
Q505,506	2SC1684	Muting	2
Q801	2SC1383	Bias Amp	1
Q802	2SC828	Bias OSC	1
Q901	2SC1096	Stabilizer	1
INTEGRATED CIRCUITS			
IC201	AN217P	FM-AM IF	1
IC301	LA3350S	FM MPX	1
IC601	M51521L	Phono EQ Amp	1
IC701	STK436	Power Amp	1
IC801,802	NE646BN	Dolby NR	1
DIODES			
D101,102	MA150	FM AGC	2
D103	MA345	FM AFC	1
D201,202	2OA90	FM Det	2
D203	2OA90	Switching	1
D204	2OA90	AM Det	1
D205	2OA90	AM Rec	1
D206	2OA90	Switching	1
D207	VD1121	AOC	1
D208	LN320GP	Tuning Indicator	1

Ref. No.	PartNo.	Description	Per Set (pcs.)
D209	MA150	Switching	1
D301	LN220RP	Stereo Indicator	1
D401,402	2OA90	RECT	2
D403	MA150	Switching	1
D501	MA150	Switching	1
D801	VD1223	AOC	1
D802	RD4R3EB	AOC	1
D803	LN48YP	Dolby NR Indicator	1
D901	RD18E	AOC	1
D902 ⚠	S4VB10	Rect	1
D903 ⚠	SVDS1RB10	Rect	1
D904,905 ⚠	SM112	Rect	2
THERMISTORS			
TH801,802	ERTD2FHK202S	Thermister	2
LAMPS AND FUSES			
PL1	XAMR53X300	Lamp	1
F1 ⚠	XBAS2C12T2A	Fuse, 1.25A	1
F6 ⚠	XBAS2C06T1A	Fuse, 630 mA	1
F901 ⚠	XBAS2C40T2A	Fuse, 4.0A	1
F902,903 ⚠	XBAS2C06T1A	Fuse, 630 mA	2
METER			
M1	SSM166	Meter	1
COILS AND TRANSFORMERS			
L101	SLA4N2-O	ANT Coil, FM	1
L102	SLD4N22-M	Coil Collector	1
L103	SLO4N18-M	OSC Coil, FM	1
L104	RLQY30S1-O	Coil Trap	1
L105	SLQY11G-2	Coil Choke	1
L201	SLF6G40-O	Ferrite ANT, LW	1
L202	SLF6G40-O	Ferrite ANT, MW	1
L203	SLO2M2-M	OSC Coil, MW	1
L204	SLO1M6	OSC Coil, LW	1
L205	SLQU270-2K	Coil Choke	1
L401,402	SLQV393-4M	Coil	2
L403,404	SLQU222-2Y	Coil Equalizer	2
L801	SLM9Z6-M	Coil MPX, 19 kHz	1
L802	SLM9Z6-M	Coil MPX, 38 kHz	1

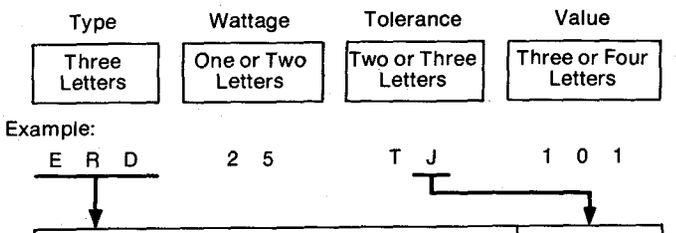
REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
L803	SLO9Z10-K	OSC Coil, Bias	1
L804,805	ELQ250A999	Coil Choke	2
L806	ELQ250A999	Coil Choke	1
L901,902 ⚠	SLQY35S-2S	Coil RFC	2
T1 ⚠	SLT5M104-W1	Power Transformer	1
T201	RLI4M101	IFT, 1st FM	1
T202	RLI4M501-M	IFT, FM Disc	1
T203	RLI4M502-M	IFT, FM Disc	1
T204	SLI2M102	IFT, 1st AM	1
T205	SLI9W106P-M	IFT, 2nd AM	1
T205	RLI7V102-M	IFT, 2nd AM (for SG-3000Ⓖ and GF)	1
T206	RLI2M402	IFT, 3rd AM	1
T801	SLT6E2-D	OPT Bias OSC	1
CF201,202	RVFCF10M12CR	FM Ceramic	2
COMPONENT COMBINATIONS			
Z201	EXA5DL04C	C-R	1
Z202	EXAF203Z471	C-R	1
Z901,902	EXRFS203Z	C-C	2
Z903	EXRFS203Z	C-C	1
VARIABLE RESISTORS			
VR201	EVLS3AA00B15	Preset, 100kΩ B	1
VR301	EVLS3AA00B23	Preset, 2kΩ B	1
VR302	EVTS3MA00B53	Preset, 5 kΩ B	1
VR303	EVLS3AA00B54	Preset, 50kΩ B	1
VR401,402	EVLS3AA00B24	Preset, 20kΩ B	2
VR403,404	EWKEPA033A24	Rec, 20kΩ A	2
VR405,406	EVLS3AA00B53	Preset, 5kΩ B	2
VR407	EVLS3AA00B14	Preset, 10kΩ B	1
VR501,502	EWKENA033A54	Bass, 50kΩ A	2
VR503,504	EWKENA033A54	Treble, 50kΩ A	2
VR505,506	EWKHHA033A54	Volume, 50kΩ A	2
VR507	EWHCIA067G54	Balance, 50kΩ A	1
VR801,802	EVLS3AA00B14	Preset, 10kΩ B	2
VR803	EVLS3AA00B13	Preset, 1kΩ B	1
VARIABLE CAPACITORS			
CT103	RCVCTY12B218	Trimmer	1
CT201,202	SCVCTY211D31	Trimmer	1

Ref. No.	Part No.	DescriptØon	Per Set (pcs.)
CT203,204	SCVCTY211D31	Trimmer	1
CV101,102	SCVC158J124K	Tuning Capacitor	
103,201			
202			
SWITCHES			
S1 ⚠	ESB7067	Power	1
S1 ⚠	ESB7097	Power (only UK)	1
S2	ESE37200	Voltage Selector	1
S3	SSL12-4	Speed Switch	1
S8-1,2,4	SSH230	Dolby/CrO_2/Nor	1
S10-1,2	SSS28	Whistle Defeat	1
ST1～9	ESD81553	Rec/Play	1
SF1～6	SSH630	Function Switch	1
PACKINGS			
PC1	SPN 3636	Carton Box	
PC2	SPN 3638	Pad	1
PC3	SPN 3640	Pad, Dust Cover	1
PC4	OL340	Silicon Oil (for Transistor and Power IC)	1
PC5	WKC40	Lubricating Oil Kit	1
PC6	AD1600	Adhesives	1
OTHERS			
1	SQX50094-1	Instruction Book	1
1	SQX50096-1	Instruction Book (only UK)	1
2	SJP9206	Plug, FM ANT (for SG-3000Ⓖ and UK)	1
3	SJP9208	Plug, AM ANT (only SG-3000Ⓖ)	1
4	SJP5213-1	Plug, Adaptor (only SG-3000Ⓖ)	1
5	SPT1HCZNRAZ1	Demonstration Tape (only SG-3000Ⓖ)	1

REPLACEMENT PARTS LIST

Numbering System of Resistor



Resistor Type	Tolerance
ERD: Carbon Film	F: ±1%
ERC: Solid	J: ±5%
ERX: Metal Film	K: ±10%
ERG: Metal Oxide Film	
ERO: High Stability Metal Film	
ERF: Flameproof Wire-Wound Bath-Tube	
ERQ: Fuse Type Metal Film	

Ref. No.	Part No.	Description		Per Set (pcs.)
RESISTORS				
R102	ERD25TJ104	100kΩ	1/4W	1
R103	ERD25TJ221	220Ω	1/4W	1
R104	ERD25TJ154	150kΩ	1/4W	1
R105	ERD25TJ153	15Ω	1/4W	1
R106	ERD25TJ100	10Ω	1/4W	1
R107	ERD25TJ472	4.7kΩ	1/4W	1
R108	ERD25TJ683	68kΩ	1/4W	1
R109	ERD25TJ102	1kΩ	1/4W	1
R110,111	ERD25TJ224	220kΩ	1/4W	2
R112	ERD25TJ152	1.5kΩ	1/4W	1
R202	ERD25TJ470	47Ω	1/4W	1
R203	ERD25TJ102	1kΩ	1/4W	1
R204	ERD25TJ332	3.3kΩ	1/4W	1
R205	ERD25TJ474	470kΩ	1/4W	1
R206	ERD25TJ101	100Ω	1/4W	1
R207	ERD25TJ470	47Ω	1/4W	1
R208,209	ERD25TJ102	1kΩ	1/4W	2
R210	ERD25TJ683	68kΩ	1/4W	1
R211	ERD25TJ681	680Ω	1/4W	1
R212	ERD25TJ333	33kΩ	1/4W	1
R213	ERD25TJ103	10kΩ	1/4W	1
R215	ERD25TJ152	1.5kΩ	1/4W	1
R216	ERD25TJ332	3.3kΩ	1/4W	1
R217	ERD25TJ102	1kΩ	1/4W	1
R218	ERD25TJ471	470Ω	1/4W	1
R219	ERD25TJ224	220kΩ	1/4W	1
R220	ERD25TJ333	33kΩ	1/4W	1
R222	ERD25TJ682	6.8kΩ	1/4W	1
R223	ERD25TJ821	820Ω	1/4W	1
R224	ERD50TJ681	680Ω	1/2W	1
R225	ERD25TJ103	10kΩ	1/4W	1
R227	ERD25TJ151	150Ω	1/4W	1
R228	ERD25TJ332	3.3kΩ	1/4W	1
R229	ERD25TJ330	33Ω	1/4W	1
R230	ERD25TJ680	68Ω	1/4W	1
R231	ERD25TJ152	1.5kΩ	1/4W	1
R232,233	ERD25TJ103	10kΩ	1/4W	2
R234,235	ERD25TJ103	10kΩ	1/4W	2
R236	ERD25TJ273	27kΩ	1/4W	1
R237	ERD25TJ223	22kΩ	1/4W	1
R238,239	ERD25TJ103	10kΩ	1/4W	2
R240	ERD25TJ103	10kΩ	1/4W	1
R241	ERD25TJ104	100kΩ	1/4W	1
R301	ERD50TJ561	560Ω	1/2W	1
R302	ERD25TJ221	220Ω	1/4W	1
R303,304	ERD25TJ332	3.3kΩ	1/4W	2
R305,306	ERD25TJ472	4.7kΩ	1/4W	2
R307	ERD25TJ473	47kΩ	1/4W	1
R308	ERD25TJ272	2.7kΩ	1/4W	1
R309	ERD25TJ682	6.8kΩ	1/4W	1
R310	ERD25TJ332	3.3kΩ	1/4W	1
R311,312	ERD25TJ684	680kΩ	1/4W	2
R313	ERD25TJ102	1kΩ	1/4W	1
R401,402	ERD25TJ100	10Ω	1/4W	2
R403,404	ERD25TJ104	100kΩ	1/4W	2
R405,406	ERD25TJ101	100Ω	1/4W	2
R407,408	ERD25TJ224	220kΩ	1/4W	2
R409,410	ERD25TJ103	10kΩ	1/4W	2
R411,412	ERD25TJ102	1kΩ	1/4W	2
R413,414	ERD25TJ154	150kΩ	1/4W	2
R415,416	ERD25TJ822	8.2kΩ	1/4W	2
R417,418	ERD25TJ222	2.2kΩ	1/4W	2
R419	ERD25TJ333	33kΩ	1/4W	1
R420	ERD50TJ151	150Ω	1/2W	1
R421,422	ERD25TJ224	220kΩ	1/4W	2
R423,424	ERD25TJ221	220Ω	1/4W	2
R425,426	ERD25TJ152	1.5kΩ	1/4W	2
R427,428	ERD25TJ222	2.2kΩ	1/4W	2
R431,432	ERD25TJ103	10kΩ	1/4W	2
R433,434	ERD25TJ333	33kΩ	1/4W	2
R435,436	ERD25TJ332	3.3kΩ	1/4W	2
R438,439	ERD25TJ103	10kΩ	1/4W	2
R441,442	ERD25TJ102	1kΩ	1/4W	2
R443,444	ERD25TJ334	330kΩ	1/4W	2
R445,446	ERD25TJ332	3.3kΩ	1/4W	2
R447,448	ERD25TJ270	27Ω	1/4W	2
R449,450	ERD25TJ471	470Ω	1/4W	2
R451,452	ERD25TJ102	4kΩ	1/4W	2
R453,454	ERD25TJ471	470Ω	1/4W	2
R455,456	ERD25TJ102	1kΩ	1/4W	2
R457,458	ERD25TJ103	10kΩ	1/4W	2
R459,460	ERD25TJ332	3.3kΩ	1/4W	2
R461,462	ERD25TJ822	8.2kΩ	1/4W	2
R463,464	ERD25TJ102	1kΩ	1/4W	2
R501,502	ERD25TJ102	1kΩ	1/4W	2
R503,504	ERD25TJ155	1.5MΩ	1/4W	2
R505,506	ERD25TJ682	6.8kΩ	1/4W	2

REPLACEMENT PARTS LIST

Ref. No.	PartNo.	Description	Per Set (pcs.)
R507,508	ERD25TJ681	680Ω 1/4W	2
R509,510	ERD25TJ332	3.3kΩ 1/4W	2
R511,512	ERD25TJ223	22kΩ 1/4W	2
R513,514	ERD25TJ222	2.2kΩ 1/4W	2
R515,516	ERD25TJ102	1kΩ 1/4W	2
R517,518	ERD18TJ155	1.5MΩ 1/8W	2
R519,520	ERD25TJ472	4.7kΩ 1/4W	2
R521,522	ERD25TJ331	330Ω 1/4W	2
R523,524	ERD25TJ682	6.8kΩ 1/4W	2
R525,526	ERD25TJ153	15kΩ 1/4W	2
R527,528	ERD25TJ153	15kΩ 1/4W	2
R529	ERD25TJ103	10kΩ 1/4W	1
R530	ERD25TJ224	220kΩ 1/4W	1
R531,532	ERD25TJ102	1kΩ 1/4W	2
R533,534	ERD25TJ103	10kΩ 1/4W	2
R601,602	ERD25TJ102	1kΩ 1/4W	2
R603,604	ERD25TJ561	560Ω 1/4W	2
R605,606	ERD25TJ153	15kΩ 1/4W	2
R607,608	ERD25TJ104	100kΩ 1/4W	2
R609,610	ERD25TJ152	1.5kΩ 1/4W	2
R611	ERD25TJ152	1.5kΩ 1/4W	1
R613,614	ERD25TJ103	10kΩ 1/4W	2
R615,616	ERD25TJ333	33kΩ 1/4W	2
R701,702	ERD25TJ102	1kΩ 1/4W	2
R703,704	ERD25TJ154	150kΩ 1/4W	2
R705,706	ERD25TJ101	100Ω 1/4W	2
R707,708	ERD25TJ224	220kΩ 1/4W	2
R709,710	ERD25TJ103	10kΩ 1/4W	2
R711,712 ⚠	ERQ12HJ4R7	4.7Ω 1/2W	2
R713,714	ERD50TJ331	330Ω 1/2W	2
R715	ERD25TJ104	100kΩ 1/4W	1
R716 ⚠	ERQ12HJ101	100Ω 1/2W	1
R801,802	ERD25TJ102	1kΩ 1/4W	2
R803,804 ⚠	ERO25CKF3301	3.3kΩ 1/4W	2
R805,806	ERD25TJ181	180Ω 1/4W	2
R807,808	ERD25TJ105	1MΩ 1/4W	2
R809,810	ERD25TJ473	47kΩ 1/4W	2
R811,812	ERD25TJ104	100kΩ 1/4W	2
R813,814	ERD25TJ104	100kΩ 1/4W	2
R815,816	ERD25TJ274	270kΩ 1/4W	2
R817,818	ERD25TJ102	1kΩ 1/4W	2
R819	ERD25TJ220	22Ω 1/4W	1
R820	ERD25TJ222	2.2kΩ 1/4W	1
R821	ERD25TJ221	220Ω 1/4W	1
R822	ERD25TJ471	470Ω 1/4W	1
R825,826	ERD25TJ222	2.2kΩ 1/4W	2
R827	ERD25TJ472	4.7kΩ 1/4W	1
R828	ERD25TJ182	1.8kΩ 1/4W	1
R829 ⚠	ERQ12HJ680	68Ω 1/2W	1
R830	ERD25TJ102	1kΩ 1/4W	1
R831	ERD25TJ224	220kΩ 1/4W	1
R901	ERD25TJ331	330Ω 1/4W	1
R902	ERD25TJ102	1kΩ 1/4W	1
R903	ERD50TJ221	220Ω 1/2W	1

Ref. No.	Part No.	Description	Per Set (pcs.)
R904 ⚠	ERQ12HJ150	15Ω 1/2W	1
R905 ⚠	ERQ12HJ680	68Ω 1/2W	1

Numbering System of Capacitor

Type	Voltage	Value	Tolerance
Four Letters	One or Two Letters	Two to Five Letters	One or Two Letters

Example:

E C K D 1 H 3 3 3 M D

Capacitor Type	Tolerance
ECCD: Temperature Compensating Ceramic	C: ±0.25pF
ECKD: High Dielectric Constant Ceramic	D: ±0.5pF
ECQM: Polyester	F: ±1pF
ECQS: Polystyrene Film	J: ±5%
ECQP: Polypropylene Film	K: ±10%
ECFD: Semiconductor Ceramic	M: ±20%
ECEA: Electrolytic	P: +100, −0%
ECEB: Electrolytic	Z: +80, −20%
ECET: Electrolytic	
ECSF: Tantalum	

Ref. No.	Part No.	Description	Per Set (pcs.)
CAPACITORS			
C102	ECCD1H101K	100pF 50V	1
C103	ECCD1H120K	12pF 50V	1
C104	ECKD1H102MD	0.001μF 50V	1
C105	ECCD1H100K	10pF 50V	1
C106	ECCD1H040C	4pF 50V	1
C107	ECCD1H391K	390pF 50V	1
C108	ECCD1H070D	7pF 50V	1
C109,110	ECKD1H103ZF	0.01μF 50V	2
C111	ECKD1H102MD	0.001μF 50V	1
C112	ECCD1H100K	10pF 50V	1
C113	ECCD1H220K	22pF 50V	1
C114	ECCD1H100K	10pF 50V	1
C115	ECCD1H010C	1pF 50V	1
C116	ECCD1H150K	15pF 50V	1
C117	ECCD1H060C	6pF 50V	1
C118	ECKD1H223ZF	0.022μF 50V	1
C119,120	ECKD1H103ZF	0.01μF 50V	2
C121	ECKD1H103ZF	0.01μF 50V	1
C201	ECCD1H270K	27pF 50V	1

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
C202,203	ECKD1H223MD	0.022μF 50V	2
C204	ECKD1H103ZF	0.01μF 50V	1
C205	ECKD1H103MD	0.001μF 50V	1
C206	ECKD1H103ZF	0.01μF 50V	1
C207	ECCD1H151K	150pF 50V	1
C208	ECCD1H080D	8pF 50V	1
C209	ECCD1H151K	150pF 50V	1
C210	ECEA25Z4R7	4.7μF 25V	1
C211	ECEA1HS100	10μF 50V	1
C212	ECKD1H223ZF	0.022μF 50V	1
C213	ECQS1152JZ	1500pF 125V	1
C214	ECEA1HS100	10μF 50V	1
C215	ECCD1H560K	56pF 50V	1
C216	ECKD1H472MD	0.0047μF 50V	1
C217	ECEA50Z3R3	3.3μF 50V	1
C218	ECKD1H102MD	0.001μF 50V	1
C219	ECQM1H473MZ	0.047μF 50V	1
C220	ECEA1HS100	10μF 50V	1
C221	ECCD1H330K	33pF 50V	1
C222	ECKD1H102MD	0.001μF 50V	1
C223	ECCD1H101K	100pF 50V	1
C224	ECCD1H120K	12pF 50V	1
C225,226	ECKD1H103MD	0.01μF 50V	2
C227	ECKD1H223MD	0.022μF 50V	1
C228	ECQS1361JZ	360pF 125V	1
C229	ECQS1181JZ	180pF 125V	1
C230	ECCD1H050C	5pF 50V	1
C231	ECCD1H180K	18pF 50V	1
C232	ECEA50Z1	1μF 50V	1
C233	ECCD1H470K	47pF 50V	1
C234	ECKD1H222MD	0.0022μF 50V	1
C235	ECKD1H102MD	0.001μF 50V	1
C236	ECKD1H222MD	0.0022μF 50V	1
C237	ECKD1H102MD	0.001μF 50V	1
C238	ECEA1HS100	10μF 50V	1
C301	ECEA1HS100	10μF 50V	1
C302	ECEA50Z1	1μF 50V	1
C303	ECQM1H473MZ	0.047μF 50V	1
C304	ECEA1ES470	47μF 25V	1
C305,306	ECKD1H472MD	0.0047μF 50V	2
C307,308	ECSF35ER1T	0.1μF 35V	2
C309,310	ECKD1H472MD	0.0047μF 50V	2
C311	ECQS1152JZ	1500pF 125V	1
C312	ECSF35ER47T	0.47μF 35V	1
C313	ECSF35ER22T	0.22μF 35V	1
C314	ECEA50Z1	1μF 50V	1
C401,402	ECCD1H681K	680pF 50V	2
C403,404	ECEA50M4R7R	4.7μF 50V	2
C405,406	ECKD1H102MD	0.001μF 50V	2
C407,408	ECEA1HS100	10μF 50V	2
C409,410	ECEA25Z4R7	4.7μF 25V	2
C411,412	ECQM1H153MZ	0.015μF 50V	2
C413,414	ECEA1ES101	100μF 25V	2
C415,416	ECEA25Z4R7	4.7μF 25V	2

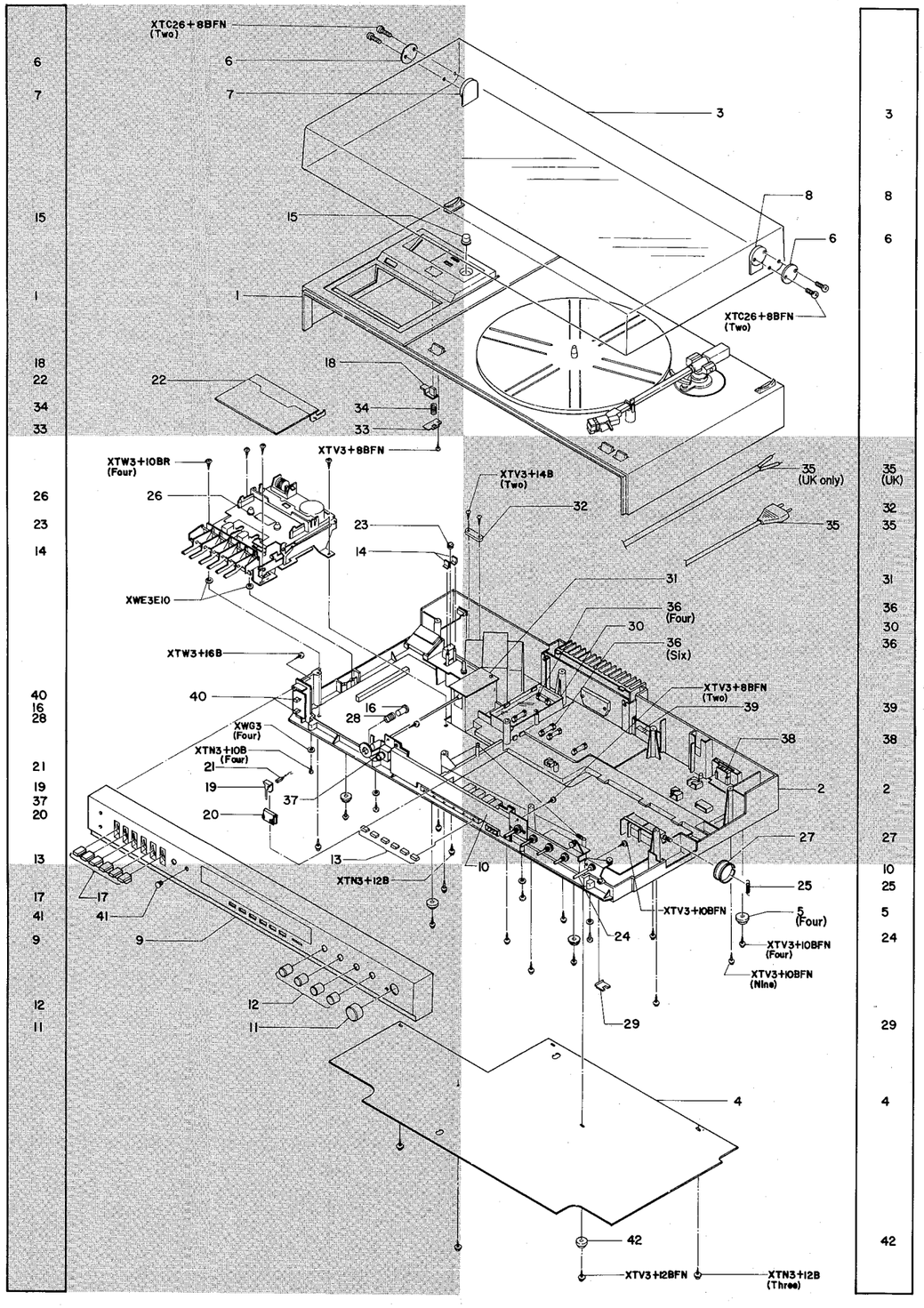
Ref. No.	PartNo.	Description	Per Set (pcs.)
C417,418	ECEA50Z3R3	3.3μF 50V	2
C419	ECEA1HS100	10μF 50V	1
C420	ECEA1ES101	100μF 25V	1
C421,422	ECSF35ER68T	0.68μF 35V	2
C423,424	ECEA50Z1	1μF 50V	2
C425,426	ECQM1H473MZ	0.047μF 50V	2
C427,428	ECQM1H153MZ	0.015μF 50V	2
C429,430	ECSF35ER1T	0.1μF 35V	2
C431,432	ECQM393MZ	0.039μF 50V	2
C433,434	ECEA1HS100	10μF 50V	2
C435,436	ECQM1H472MZ	0.0047μF 50V	2
C437	ECEA1HS100	10μF 50V	1
C438	ECEA1ES471	470μF 25V	1
C451,452	ECKD1H472MD	0.0047μF 50V	2
C453,454	ECQM1H103MZ	0.01μF 50V	2
C501,502	ECEA50Z1	1μF 50V	2
C503,504	ECKD1H102MD	0.001μF 50V	2
C505,506	ECEA50Z1	1μF 50V	2
C507,508	ECQM1H223MZ	0.022μF 50V	2
C509,510	ECEA50MR22R	0.22μF 50V	2
C511,512	ECQM1H682MZ	0.0068μF 50V	2
C513,514	ECQM1H683MZ	0.068μF 50V	2
C515,516	ECEA50Z1	1μF 50V	2
C517,518	ECKD1H102MD	0.001μF 50V	2
C519,520	ECEA50Z1	1μF 50V	2
C521,522	ECEA50MR47R	0.47μF 50V	2
C523	ECEA1CS221	220μF 16V	1
C524	ECEA50Z1	1μF 50V	1
C525	ECEA1CS221	220μF 16V	1
C601,602	ECSF35E1T	1μF 35V	2
C603,604	ECQM1H682MZ	0.0068μF 50V	2
C605,606	ECQM1H333MZ	0.033μF 50V	2
C607,608	ECEA1ES470	47μF 25V	2
C609,610	ECEA50Z1	1μF 50V	2
C611	ECEA1ES101	100μF 25V	1
C613,614	ECCD1H331K	330pF 50V	2
C615,616	ECKD1H102MD	0.001μF 50V	2
C701,702	ECEA50Z1	1μF 50V	2
C703,704	ECCD1H471K	470pF 50V	2
C705,706	ECEA1ES101	100μF 25V	2
C707,708	ECCD1H101K	100pF 50V	2
C709,710	ECEA1ES470	47μF 25V	2
C711,712	ECEA1JS471	470μF 63V	2
C713,714	ECQM1H473MZ	0.047μF 50V	2
C715	ECEA1HS470	47pF 50V	1
C716	ECEA1HS471	470μF 50V	1
C717	ECKD1H223ZF	0.022μF 50V	1
C801,802	ECSF35ER33T	0.33μF 35V	2
C803,804	ECEA1HS100	10μF 50V	2
C805,806	ECEA1HS100	10μF 50V	2
C807,808	ECQS1562JZ	5600pF 125V	2
C809,810	ECQS1472JZ	4700pF 125V	2
C811,812	ECQP1273FZ	0.027μF 100V	2
C813,814	ECEA1HS100	10μF 50V	2

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
C815,816	ECQM1H473JZ	0.047μF 125V	2
C817,818	ECEA1HS100	10μF 50V	2
C819,820	ECSF35ER1T	0.1μF 35V	2
C821,822	ECSF35ER33T	0.33μF 35V	2
C823	ECEA1AS471	470μF 10V	1
C824	ECEA50Z1	1μF 50V	1
C825	ECQM1H104MZ	0.1μF 50V	1
C826	ECQM1H683MZ	0.068μF 50V	1
C827	ECQM1H333MZ	0.033μF 50V	1
C828	ECEA1HS100	10μF 50V	1
C829	ECQS1471JZ	470pF 125V	1
C830	ECQS1182JZ	1800pF 125V	1
C831,832	ECSF35ER1T	0.1μF 35V	2
C833	ECEA1CS471	470μF 16V	1
C835	ECEA1ES101	100μF 25V	1
C836,837	ECCD1H331K	330pF 50V	2
C901	ECEA1ES221	220μF 25V	1
C902	ECEA1ES222	2200μF 25V	1
C903	ECEA1VS222	2200μF 35V	1
C904	ECET50R332SW	3300μF 50V	1
C909	ECKD1H223ZF	0.022μF 50V	1
C910,911 ⚠	ECKDHS101MB	100pF 400V (for SG-3000Ⓖ and GF)	2
C912 ⚠	ECKDGS101MB4	100pF 400V	1
C913,914	ECKD1H223ZF	0.022μF 50V	2
C917	ECEA1ES221	220μF 25V	1
C918	ECKD1H223ZF	0.022μF 50V	1
C919	ECEA1ES101	100μF 25V	1
C920	ECQM1H103MZ	0.01μF 50V	1
C921	ECKD1H223ZF	0.022μF 50V	1

Ref. No.	PartNo.	Description	Per Set (pcs.)

PARTS LOCATION OF CABINET AND CHASSIS

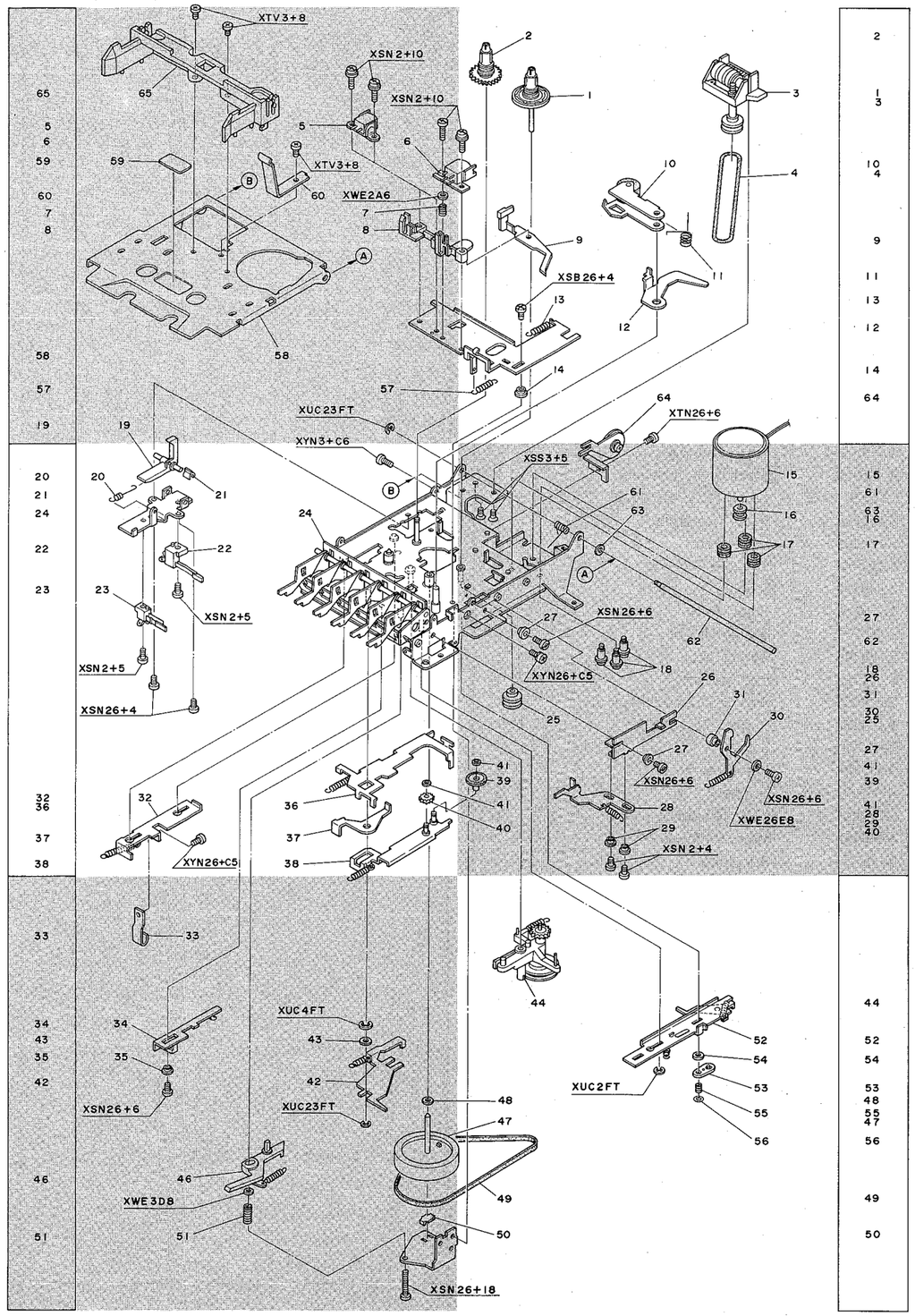


REPLACEMENT PARTS LIST OF CABINET AND CHASSIS

Ref. No.		Part No.	Description	Per Set (pcs.)
1		SYK1672	Cabinet A Ass'y	1
2		SKM6242	Cabinet B	1
3		SGE1062	Dust Cover	1
4		SYU390	Bottom Board Ass'y	1
5		SYL14	Foot Ass'y	4
6		SBH9054-1	Cap, Hinge	2
7		SBH9056-1	Hinge, Left	1
8		SBH9058-1	Hinge, Right	1
9		SYP422-1	Escutcheon Ass'y	1
10		SKD4642	Dial Scale	1
		SKD4641	Dial Scale (only UK)	1
11		SBN918	Knob, Tuning	1
12		SBN920	Knob, Volume	4
13		SBC382	Button	6
14		SBC376	Button, Tape Selector	2
15		SBN922	Knob, REC	1
16		SBC334-1	Button, Power	1
17		SBC378	Button, Cassette	6
18		SBC264-2	Button, Reset	1
19		SDP5040	Dial Pointer	1
20		SDA62	Holder, Dial Pointer	1
21		SWE112	Lamp, Dial Pointer	1
22		SYE644	Cassette Lid Ass'y	1
23		SHG646	Rubber	1
24		SDT9416	Tuning Shaft	1
25		RDS4090A	Spring	1
26		SDH200	Reflector Plate	1
27		RDD323ZA	Dial Drum	1
28		SUS212	Spring, Button	1
29		SUS222	Contact Spring	1
30	⚠	SMX136-1	Insulator Cover	1
31	⚠	SMX178	Cover, Power Switch	1
32	⚠	SHR112	Power Cord Clamp	1
33		SUW1910	Holder, Reset Button	1
34		SJY9398	Spring, Reset Button	1
35	⚠	SJA88-1	Power Cord	1
	⚠	SJA116	Power Cord (only UK)	1
36	⚠	SJF110	Fuse Holder	10
37		XCJS6PF4	Jack, Head Phone	1
38		SJS9408	Pin, Antenna	1
39		SJF9208	Pin Speaker	1
40		RJJ48A	Jack, Microphone	2
41		SUV122-1	Jack Cover	1
42		SKL46	Rubber, Foot	1

Ref. No.	PartNo.	Description	Per Set (pcs.)

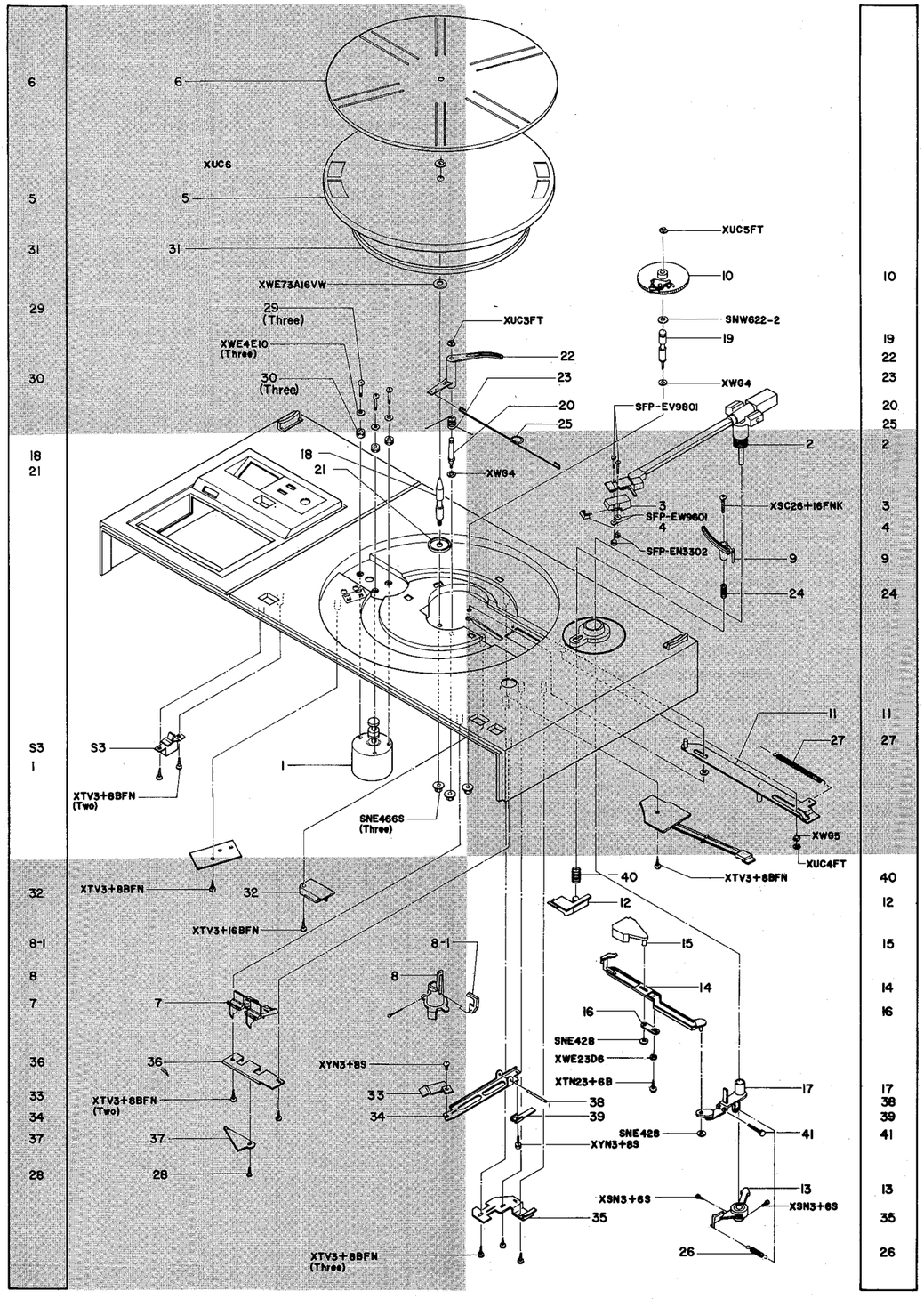
EXPLODED VIEW OF CASSETTE TAPE DECK (SJD574)



REPLACEMENT PARTS LIST OF CASSETTE TAPE DECK (SJD574)

Ref. No.	Part No.	Description	Per Set (pcs.)
1	SMQ2476	Take Up Reel Assembly	1
2	SMQ2474	Supply Reel Assembly	1
3	SMQ2530	Counter	1
4	SMQ2570	Counter Belt	1
5	SJH14	E. Head	1
6	SJH30	R/P Head	1
7	SMQ678	Spring, R/P Head	1
8	SMQ1986	Head Base	1
9	SMQ1900	Lever Assembly, Auto Stop	1
10	SMQ2482	Pinch Roller Assembly	1
11	SMQ2484	Spring, Pinch Roller	1
12	SMQ2486	Arm Lever	1
13	SMQ1898	Spring, Head Panel	1
14	SMQ1648	Collar, Head Panel	1
15	MHT5PT2TX	Motor	1
16	SMQ1802-1	Motor Pulley	1
17	SMQ2584	Rubber Cushion	3
18	SMQ2586	Spacer Screw	3
19	SMQ1232-1	REC Safety Lever	1
20	SMQ2578	Spring, REC Safety Lever	1
21	SMQ1706	Stopper, REC Safety Lever	1
22	SMQ2582	Leaf Switch, Motor ON-OFF	1
23	SMQ2572	Leaf Switch, Muting	1
24	SMQ2566	Push Button Frame Assembly	1
25	SMQ2436	Drive Pulley	1
26	SMQ2558	Eject Slide Lever	1
27	SMQ1426	Collar, Eject Slide Lever	2
28	SMQ2560	Slide Kick Lever w/Spring	1
29	SMQ2562	Collar, Slide Kick Lever	2
30	SMQ2564	Eject Hook w/Spring	1
31	SMQ2588	Collar, Eject Hook	1
32	SMQ2552	REC Slide Lever w/Spring	1
33	SMQ2598	Spring Plate, REC Switch	1
34	SMQ1920	Play Slide Lever	1
35	SMQ1426	Collar, Play Slide Lever	1
36	SMQ1926	Main Plate w/Spring	1
37	SMQ1928	Rewind Arm	1
38	SMQ1922	FF Idler Arm Assembly w/Spring	1
39	SMQ1450	Take Up Idler	1
40	SMQ1924	FF Gear	1
41	SMQ1952	Washer	2
42	SMQ2574	Operation Plate, Muting w/Spring	1
43	SMQ2580	Collar, Muting Plate	1
44	SMQ1930	RF Clutch Assembly w/Spring	1
46	SMQ1918	Auto Stop Kick Lever w/Spring	1
47	SMQ1942	Flywheel	1
48	SMQ1940	Washer	1
49	SMQ2556	Main Belt	1
50	SMQ2538	Flywheel Pad	1
51	SMQ1948	Thrust Spring, Flywheel	1
52	SMQ2568	Pause Slide Lever Assembly w/Spring	1
53	SMQ2444	Pause Lever	1
54	SMQ2446	Collar, Pause Lever	1
55	SMQ2448	Spring, Pause Lever	1
56	SMQ2450	Washer	1
57	SMQ1950	RC Spring	1
58	SMQ2404	Cassette Cover	1
59	SDH200	Frusent Paper	
60	SMQ2412	Cassette Hold Spring	1
61	SMQ2408	Spring, Cassette Cover	1
62	SMQ2406	Shaft	1
63	SMQ2410	Collar	1
64	SXE158	Eject Arm Assembly	1
65	SGE1060	Cassette Holder	1

EXPLODED VIEW OF RECORD PLAYER



REPLACEMENT PARTS LIST OF RECORD PLAYER

Ref. No.	Part No.	Description	Per Set (pcs.)
1	MMC1170FP	Motor with Motor Pulley	1
2	EPU625SMAD	Tone Arm Assembly with Cartridge Stylus	1
3	EPC290C	Cartridge Stylus	1
4	EPS290SD	Stylus	1
5	SJY160	Turntable Assembly	1
6	SJY4034	Turntable Mat	1
7	SJY202	Knob, Cut	1
8	SJY204	Arm Rest	1
8-1	(SJY5140)	Hook	(1)
9	SJY206	Lifter	1
10	SJY32	Gear Assembly	1
11	SJY178	Operating Plate Assembly	1
12	SJY5146	Shaft, Lift	1
13	SJY9016-3	Lever, Switch	1
14	SJY9042	Actuating Plate	1
15	SJY9044-1	Stop Plate, Switch	1
16	SJY9046	Bracket, Switch Control	1
17	SFUM623-4E	Lever, Tune Arm Plate	1
18	SJY9388	Shaft, Turntable	1
19	SJY9392	Shaft, Gear	1
20	SJY9376	Shaft, Reject Arm	1
21	SJY9380	Bracket, Turntable	1
22	SJY9268	Reject Arm	1
23	SJY9266	Spring, Reject	1
24	SJY9396	Spring, Lift	1
25	SJY9598	Spring, Stop	1
26	SJY9056	Spring Tone Arm Plate	1
27	SJY9062	Spring, Operatig	1
28	SHD9014	Screw	1
29	SJY9288	Screw Motor	3
30	SHG9092	Rubber	3
31	SFGB321-1	Turntable Belt	1
32	AM4700	Micro Switch (S4)	1
33	SJY9586	Bracket A	1
34	SJY9588	Bracket B	1
35	SJY9584	Bracket C	1
36	SJY9582	Bracket, Switch	1
37	SJY9580	Lever, Cut	1
38	SJY9594	Shaft	1
39	SUS234-1	Spring Plate, Rec	1
40	SJY9602	Spring, Lift	1
41	VF3B20S	Screw, Tone Arm Plate	1

Ref. No.	Part No.	Description	Per Set (pcs.)

BLOCK DIAGRAM